University of Minnesota
Driven to Discover℠

University of Minnesota Twin Cities

2012-14 UNDERGRADUATE CATALOG

This file serves as an official record of University, college, and program requirements and policies during a specific time period. It includes a directory of undergraduate programs, majors, and course descriptions. It also includes a list of University policies.

NOTE: The information in this catalog is subject to change without notice. Colleges and departments make changes in their degree requirements and course descriptions frequently. For the most current information, check with department offices, advisers, and visit the **Online Catalog** at www.catalogs.umn.edu.

Twin Cities Campus

Biochemistry B.S.

Biochemistry, Molecular Biology, & Biophysics TCBS

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 73 to 80
- Degree: Bachelor of Science

Biochemists study molecules found in living organisms, particularly proteins, nucleic acids, lipids, and carbohydrates. Biochemistry majors focus their studies on the biosynthesis, metabolism, function, and regulation of these molecules of life. This information is essential to gain an understanding of many biological processes, including how diseases like cancer and diabetes develop, and to learn how genetic engineering and biotechnology can be used in ways that benefit society.

Earning a B.S. in biochemistry prepares majors for graduate study in biochemistry, or other biological sciences; professional training programs in the health sciences; careers in teaching; and entry-level positions in industries, agencies, and universities.

Biochemistry is an experimental science, and majors, especially those planning to pursue graduate studies in the field, should become acquainted with laboratory research approaches beyond those in the formal lab courses. Research options are available through BIOC 4994 or BIOC 4794W. Students should consult early with their faculty mentor to begin planning the research component of their major.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
or CHEM 4501 - Introduction to Thermodynamics, Kinetics, and Statistical Mechanics (3.0 cr)
CHEM 4502 - Introduction to Quantum Mechanics and Spectroscopy (3.0 cr)

Mathematics

MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)

Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

General Biology
BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

Biology Core
BIOL 4003 - Genetics (3.0 cr)
BIOL 4004 - Cell Biology (3.0 cr)
Take one course or course pair.
Take 1 or more course(s) from the following:
•MICB 3301 - Biology of Microorganisms (5.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
•BIOL 3408W - Ecology [WI] (3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•PHSL 3051 - Human Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•PHSL 3061 - Principles of Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)

Biochemistry Core
BIOC 3960 - Research Topics in Biochemistry (1.0 cr)
BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)

Biochemistry Major Electives
Courses used in electives cannot fulfill other areas in the major. To be eligible to fulfill a biochemistry major requirement, all upper division (38xx, 48xx, 58xx) BIOL, EEB, PBIO courses taken at the Itasca Biological Station must be at least 2 credits.
Take 6 or more credits(s) from the following:
•**Laboratory and Field Courses**
•Must include one lab/field course from the approved list. Directed Research (4994/4794W) must be completed for at least 2 credits to count as a lab/field course. Upper division (38xx, 48xx or 58xx) BIOL, EEB, or PBIO courses taken at the Itasca Biological Station also count toward the lab/field requirement.
•Take 1 or more course(s) from the following:
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
•BIOL 4994 - Directed Research (1.0 - 6.0 cr)
•EEB 4014 *{Inactive}*(3.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•EEB 4994 - Directed Research (1.0 - 6.0 cr)
•EEB 5605 - Limnology Laboratory (2.0 cr)

- FW 4136 - Ichthyology (4.0 cr)
- GCD 4025 - Cell Biology Laboratory (2.0 cr)
- GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
- GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- GCD 4994 - Directed Research (1.0 - 6.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
- MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
- MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
- MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
- MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
- MICB 4994 - Directed Research (1.0 - 7.0 cr)
- NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- NSCI 4994 - Directed Research (1.0 - 6.0 cr)
- PBIO 4321 - Minnesota Flora (3.0 cr)
- PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
- PBIO 4511 - Flowering Plant Diversity (3.0 cr)
- PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- PBIO 4994 - Directed Research (1.0 - 6.0 cr)
- BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
  BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
- BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
  PHSL 3051 - Human Physiology (4.0 cr)
- BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
  PHSL 3061 - Principles of Physiology (4.0 cr)

- **Biochemistry Electives**
  - Take 0 - 5 credits(s) from the following:
  - BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
  - BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
  - BIOC 4185 - Laboratory in Molecular Genetics (3.0 cr)
  - BIOC 4225 - Laboratory in NMR Techniques (1.0 cr)
  - BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
  - BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
  - BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)
  - BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
  - BIOC 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
  - BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
  - BIOC 4950 - Computer Simulation and Data Analysis in Biochemistry (3.0 cr)
  - BIOC 4960 - Special Topics in Biochemistry (3.0 cr)
  - BIOC 4993 - Directed Studies (1.0 - 7.0 cr)
  - BIOC 4994 - Directed Research (1.0 - 6.0 cr)
  - BIOC 5001 - Biochemistry, Molecular and Cellular Biology (5.0 cr)
  - BIOC 5213 - Selected Topics in Molecular Biology (3.0 cr)
  - BIOC 5225 - Graduate Laboratory in NMR Techniques (1.0 cr)
  - BIOC 5309 - Biocatalysis and Biodegradation (3.0 cr)
  - BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
  - BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
  - BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
  - BIOC 5444 - Muscle (3.0 cr)
  - BIOC 5527 - Introduction to Modern Structural Biology (4.0 cr)
  - BIOC 5528 - Spectroscopy and Kinetics (4.0 cr)
  - BIOC 5531 - Macromolecular Crystallography I: Fundamentals and Techniques (1.0 cr)
  - BIOC 5532 - Macromolecular Crystallography II: Techniques and Applications (1.0 cr)
  - BIOC 5960 - Special Topics in Biochemistry (3.0 cr)
  - BIOL 3002 - Plant Biology: Function (2.0 cr)
  - BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
  - BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
  - BIOL 3209 - Understanding the Evolution-Creationism Controversy [CIV] (3.0 cr)
  - BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
  - BIOL 3272 - Applied Biostatistics (3.0 cr)
  - BIOL 3407 - Ecology (3.0 cr)
  - BIOL 3408W - Ecology [WI] (3.0 cr)
  - BIOL 3409 - Evolution (3.0 cr)
  - BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
  - BIOL 3503 - Biology of Aging (2.0 cr)
  - BIOL 3600 - Directed Instruction (1.0 - 2.0 cr)

or ENGL 3601 - Analysis of the English Language (4.0 cr)
or CI 3610 - Linguistics for Teachers [SOCS] (3.0 cr)

Reading Processes and Development

CI 5413 - Foundations of Reading (3.0 cr)
with CI 4413 - Practicum: Working With Developing Readers (2.0 cr)

Arts

CI 3001 - Survey of Art Activities (2.0 cr)

Performing Arts

PSTL 1312 - Creating Identities Through Art and Performance [AH] (4.0 cr)
or MUED 5011 - Music in the Elementary Classroom Curriculum (3.0 cr)

Kinesiology

KIN 3327 - Teaching Physical Education in the Elementary School (2.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

•BIOL 3610 - Internship: Professional Experience in Biological Sciences (1.0 - 6.0 cr)
•BIOL 3700 - Undergraduate Seminar (1.0 - 3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3820 - Aquatic Toxicology (2.0 cr)
•BIOL 3825 - Ecological Genetics (2.0 cr)
•BIOL 3960H - Communicating in the Biological Sciences (1.0 cr)
•BIOL 4035 - Metagenomics Laboratory (3.0 cr)
•BIOL 4501 *{Inactive}*(3.0 cr)
•BIOL 4700 - Cell Physiology (3.0 cr)
•BIOL 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
•BIOL 4850 - Special Topics in Biology (1.0 - 5.0 cr)
•BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
•BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
•BIOL 4950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOL 4993 - Directed Studies (1.0 - 6.0 cr)
•BIOL 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 5407 - Ecology (3.0 cr)
•BIOL 5409 - Evolution (3.0 cr)
•BIOL 5485 - Bioinformatics: Experimental Design and Computational Analysis in Systems Biology (3.0 cr)
•BIOL 5950 - Special Topics in Biology (1.0 - 4.0 cr)
•EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
•EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
•EEB 4014 *{Inactive}*(3.0 cr)
•EEB 4068 - Plant Physiological Ecology (3.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•EEB 4329 - Primate Ecology and Social Behavior (3.0 cr)
•EEB 4330 - Animal Communication (3.0 cr)
•EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
•EEB 4611 - Biogeochemical Processes (3.0 cr)
•EEB 4631 *{Inactive}*(4.0 cr)
•EEB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•EEB 4801 *{Inactive}*(4.0 cr)
•EEB 4809 *{Inactive}*(3.0 cr)
•EEB 4814 - Plant Community Ecology (4.0 cr)
•EEB 4817 - Vertebrate Ecology (4.0 cr)
•EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
•EEB 4839 - Field Studies in Mammalogy (4.0 cr)
•EEB 4842 - Arctic Field Ecology (4.0 cr)
•EEB 4844 - Field Ornithology (4.0 cr)
•EEB 4993 - Directed Studies (1.0 - 7.0 cr)
•EEB 4994 - Directed Research (1.0 - 6.0 cr)
•EEB 5001 *{Inactive}*(3.0 cr)
•EEB 5009 *{Inactive}*(3.0 cr)
•EEB 5013 *{Inactive}*(2.0 cr)
•EEB 5033 *{Inactive}*(4.0 cr)
•EEB 5042 - Quantitative Genetics (3.0 cr)
•EEB 5053 - Ecology: Theory and Concepts (4.0 cr)
•EEB 5068 - Plant Physiological Ecology (3.0 cr)
•EEB 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•EEB 5221 - Molecular Evolution (3.0 cr)
•EEB 5321 *{Inactive}*(3.0 cr)
•EEB 5322 - Evolution and Animal Cognition (3.0 cr)
•EEB 5323 - Neural and Endocrine Mechanisms Underlying Vertebrate Behavior (2.0 cr)
•EEB 5327 *{Inactive}*(3.0 cr)
•EEB 5371 - Principles of Systematics (3.0 cr)
•EEB 5601 - Limnology (3.0 cr)
•EEB 5605 - Limnology Laboratory (2.0 cr)
•EEB 5609 - Ecosystem Ecology (3.0 cr)
•EEB 5963 - Modeling Nature and the Nature of Modeling (3.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4034 - Molecular Genetics (3.0 cr)

- GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
- GCD 4134 - Endocrinology (3.0 cr)
- GCD 4143 - Human Genetics (3.0 cr)
- GCD 4151 - Molecular Biology of Cancer (3.0 cr)
- GCD 4161 - Developmental Biology (3.0 cr)
- GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
- GCD 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
- GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- GCD 4993 - Directed Studies (1.0 - 7.0 cr)
- GCD 4994 - Directed Research (1.0 - 6.0 cr)
- GCD 5036 - Molecular Cell Biology (3.0 cr)
- MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
- MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
- MICB 4131 - Immunology (3.0 cr)
- MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
- MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
- MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
- MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)
- MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
- MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
- MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
- MICB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
- MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
- MICB 4993 - Directed Studies (1.0 - 6.0 cr)
- MICB 4994 - Directed Research (1.0 - 7.0 cr)
- NSCI 3001W - Neuroscience and Society [CIV, WI] (4.0 cr)
- NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
- NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
- NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
- NSCI 4105 - Neurobiology Laboratory I (3.0 cr)
- NSCI 4151 - Advanced Topics in Neuroscience (3.0 cr)
- NSCI 4167 - Neuroscience in the Community (1.0 - 3.0 cr)
- NSCI 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
- NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- NSCI 4993 - Directed Studies (1.0 - 7.0 cr)
- NSCI 4994 - Directed Research (1.0 - 6.0 cr)
- NSC 5031W - Perception [WI] (3.0 cr)
- NSC 5037 - Psychology of Hearing (3.0 cr)
- NSC 5040 - Brain Networks: From Connectivity to Dynamics (4.0 cr)
- NSC 5201 - Computational Neuroscience I: Membranes and Channels (3.0 cr)
- NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
- NSC 5203 - Basic and Clinical Vision Science (3.0 cr)
- NSC 5461 - Cellular and Molecular Neuroscience (4.0 cr)
- NSC 5462 - Neuroscience Principles of Drug Abuse (2.0 cr)
- NSC 5481 - Invertebrate Neurobiology (3.0 cr)
- NSC 5661W - Behavioral Neuroscience [WI] (3.0 cr)
- NSC 5667 - Neurobiology in Disease (2.0 - 3.0 cr)
- NSC 5668 - Neurodegeneration and Repair (2.0 cr)
- PBIO 4321 - Minnesota Flora (3.0 cr)
- PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
- PBIO 4511 - Flowering Plant Diversity (3.0 cr)
- PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
- PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
- PBIO 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
- PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- PBIO 4993 - Directed Studies (1.0 - 7.0 cr)
- PBIO 4994 - Directed Research (1.0 - 6.0 cr)
- PBIO 5109 - Current Questions in Fungal Biology (2.0 cr)
- PBIO 5301 - Plant Genomics (3.0 cr)
- BIOL 5309 - Molecular Ecology And Ecological Genomics (3.0 cr)
- PBIO 5412 - Plant Physiology (3.0 cr)
- PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
- PBIO 5516 - Plant Cell Biology (3.0 cr)
- PBIO 5601 - Topics in Plant Biochemistry (3.0 cr)
- PBIO 5960 - Special Topics (1.0 - 3.0 cr)

- MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
  or MICB 3303 - Biology of Microorganisms (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

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Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed Research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Biology B.S.

College of Biological Sciences - Adm

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 69 to 81
- Degree: Bachelor of Science

Students majoring in biology gain a broad understanding of the fundamental nature and characteristics of living things and the ways in which they interact. Their studies cover the full range of life sciences, from cancer genes to acid rain and from lichens to marine mammals.

The biology B.S. program prepares students for study in a broad spectrum of biological sciences; professional training programs in the health sciences; careers in teaching; and entry-level scientist positions in industry, government agencies, and universities.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students completing another major in the College of Biological Sciences are not eligible for the Biology B.S.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Additional Chemistry

BIOC 2331 - Chemical Mechanisms in Biology (3.0 cr)
or CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)

Quantitative Requirement

Quantitative I

MATH 1241 - Calculus and Dynamical Systems in Biology [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Take exactly 1 course(s) from the following:

- BIOL 3272 - Applied Biostatistics (3.0 cr)

•MATH 1272 - Calculus II (4.0 cr)
•STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
•CSCI 1901 - Structure of Computer Programming I (4.0 cr)
•CSCI 3003 - Introduction to Computing in Biology (3.0 cr)

Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

General Biology
BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

Organismal Biology
Take 1 or more course(s) from the following:
•**Animal Biology**
•BIOL 2012 - General Zoology (4.0 cr)
or BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•**Plant Biology**
•BIOL 2022 - General Botany (3.0 cr)
or BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•**Microbiology**
•VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)

Biology Core
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
Take 1 or more course(s) from the following:
•BIOL 3407 - Ecology (3.0 cr)
•BIOL 3408W - Ecology [WI] (3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
BIOL 4003 - Genetics (3.0 cr)
BIOL 4004 - Cell Biology (3.0 cr)

Biology Major Electives
Electives must include 2 laboratory or field courses from the approved list. To count as a lab/field course, directed research must be completed for a minimum of 3 credits; credits can be split over multiple terms using 4994, 4794W, or a combination of the two. Directed research can only be used for one laboratory or field requirement. In order to be counted toward the laboratory or field requirement, Itasca courses (48xx) must be 2 credits or greater.
Take 11 or more credits(s) from the following:
•**Laboratory and Field Courses**
•Take 2 or more course(s) from the following:
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 3408W - Ecology [WI] (3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3820 - Aquatic Toxicology (2.0 cr)

- BIOL 3825 - Ecological Genetics (2.0 cr)
- BIOL 4035 - Metagenomics Laboratory (3.0 cr)
- BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
- BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
- BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
- BIOL 4994 - Directed Research (1.0 - 6.0 cr)
- EEB 4014 *{Inactive}*(3.0 cr)
- EEB 4129 - Mammalogy (4.0 cr)
- EEB 4134 - Introduction to Ornithology (4.0 cr)
- EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- EEB 4801 *{Inactive}*(4.0 cr)
- EEB 4809 *{Inactive}*(3.0 cr)
- EEB 4814 - Plant Community Ecology (4.0 cr)
- EEB 4817 - Vertebrate Ecology (4.0 cr)
- EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
- EEB 4839 - Field Studies in Mammalogy (4.0 cr)
- EEB 4842 - Arctic Field Ecology (4.0 cr)
- EEB 4844 - Field Ornithology (4.0 cr)
- EEB 4994 - Directed Research (1.0 - 6.0 cr)
- EEB 5605 - Limnology Laboratory (2.0 cr)
- ENT 4861 - Aquatic Insects (3.0 cr)
- ENT 5361 - Aquatic Insects (4.0 cr)
- FW 4136 - Ichthyology (4.0 cr)
- GCD 3485 - Bioinformatic Analysis: Introduction to the Computational Characterization of Genes and Proteins (3.0 cr)
- GCD 4025 - Cell Biology Laboratory (2.0 cr)
- GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
- GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- GCD 4994 - Directed Research (1.0 - 6.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
- MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
- MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
- MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
- MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
- MICB 4994 - Directed Research (1.0 - 7.0 cr)
- NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- NSCI 4994 - Directed Research (1.0 - 6.0 cr)
- PBIO 4321 - Minnesota Flora (3.0 cr)
- PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
- PBIO 4511 - Flowering Plant Diversity (3.0 cr)
- PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- PBIO 4994 - Directed Research (1.0 - 6.0 cr)
- BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
  BIOL 2005 - Animal Diversity Laboratory (2.0 cr)

- **Additional Electives**
  - Take 0 - 8 credits(s) from the following:
  - BIOL 3002 - Plant Biology: Function (2.0 cr)
  - BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
  - BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
  - BIOL 3209 - Understanding the Evolution-Creationism Controversy [CIV] (3.0 cr)
  - BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
  - BIOL 3272 - Applied Biostatistics (3.0 cr)
  - BIOL 3407 - Ecology (3.0 cr)
  - BIOL 3408W - Ecology [WI] (3.0 cr)
  - BIOL 3409 - Evolution (3.0 cr)
  - BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
  - BIOL 3503 - Biology of Aging (2.0 cr)
  - BIOL 3600 - Directed Instruction (1.0 - 2.0 cr)
  - BIOL 3610 - Internship: Professional Experience in Biological Sciences (1.0 - 6.0 cr)
  - BIOL 3700 - Undergraduate Seminar (1.0 - 3.0 cr)
  - BIOL 3807 - Ecology (4.0 cr)
  - BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
  - BIOL 3820 - Aquatic Toxicology (2.0 cr)
  - BIOL 3825 - Ecological Genetics (2.0 cr)
  - BIOL 4035 - Metagenomics Laboratory (3.0 cr)
  - BIOL 4201 - Teaching in the Biology Laboratory (1.0 cr)

•BIOL 4700 - Cell Physiology (3.0 cr)
•BIOL 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
•BIOL 4850 - Special Topics in Biology (1.0 - 5.0 cr)
•BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
•BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
•BIOL 4950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOL 4993 - Directed Studies (1.0 - 6.0 cr)
•BIOL 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 5407 - Ecology (3.0 cr)
•BIOL 5409 - Evolution (3.0 cr)
•BIOL 5485 - Bioinformatics: Experimental Design and Computational Analysis in Systems Biology (3.0 cr)
•BIOL 5511 - Teaching the Biological Sciences (3.0 cr)
•BIOL 5950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOC 3960 - Research Topics in Biochemistry (1.0 cr)
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4185 - Laboratory in Molecular Genetics (3.0 cr)
•BIOC 4225 - Laboratory in NMR Techniques (1.0 cr)
•BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
•BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
•BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)
•BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
•BIOC 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4950 - Computer Simulation and Data Analysis in Biochemistry (3.0 cr)
•BIOC 4960 - Special Topics in Biochemistry (3.0 cr)
•BIOC 4993 - Directed Studies (1.0 - 7.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOC 5001 - Biochemistry, Molecular and Cellular Biology (5.0 cr)
•BIOC 5213 - Selected Topics in Molecular Biology (3.0 cr)
•BIOC 5309 - Biocatalysis and Biodegradation (3.0 cr)
•BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
•BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
•BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
•BIOC 5444 - Muscle (3.0 cr)
•BIOC 5527 - Introduction to Modern Structural Biology (4.0 cr)
•BIOC 5528 - Spectroscopy and Kinetics (4.0 cr)
•BIOC 5531 - Macromolecular Crystallography I: Fundamentals and Techniques (1.0 cr)
•BIOC 5532 - Macromolecular Crystallography II: Techniques and Applications (1.0 cr)
•BIOC 5960 - Special Topics in Biochemistry (3.0 cr)
•EEB 3002 - Sex, Evolution, and Behavior: Examining Human Evolutionary Biology (4.0 cr)
•EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
•EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
•EEB 4014 *{Inactive}*(3.0 cr)
•EEB 4068 - Plant Physiological Ecology (3.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•EEB 4329 - Primate Ecology and Social Behavior (3.0 cr)
•EEB 4330 - Animal Communication (3.0 cr)
•EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
•EEB 4611 - Biogeochemical Processes (3.0 cr)
•EEB 4631 *{Inactive}*(4.0 cr)
•EEB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•EEB 4801 *{Inactive}*(4.0 cr)
•EEB 4809 *{Inactive}*(3.0 cr)
•EEB 4814 - Plant Community Ecology (4.0 cr)
•EEB 4817 - Vertebrate Ecology (4.0 cr)
•EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
•EEB 4839 - Field Studies in Mammalogy (4.0 cr)
•EEB 4842 - Arctic Field Ecology (4.0 cr)
•EEB 4844 - Field Ornithology (4.0 cr)
•EEB 4993 - Directed Studies (1.0 - 7.0 cr)
•EEB 4994 - Directed Research (1.0 - 6.0 cr)

•EEB 5001 *{Inactive}*(3.0 cr)
•EEB 5009 *{Inactive}*(3.0 cr)
•EEB 5013 *{Inactive}*(2.0 cr)
•EEB 5033 *{Inactive}*(4.0 cr)
•EEB 5042 - Quantitative Genetics (3.0 cr)
•EEB 5053 - Ecology: Theory and Concepts (4.0 cr)
•EEB 5068 - Plant Physiological Ecology (3.0 cr)
•EEB 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•EEB 5221 - Molecular Evolution (3.0 cr)
•EEB 5321 *{Inactive}*(3.0 cr)
•EEB 5322 - Evolution and Animal Cognition (3.0 cr)
•EEB 5323 - Neural and Endocrine Mechanisms Underlying Vertebrate Behavior (2.0 cr)
•EEB 5327 *{Inactive}*(3.0 cr)
•EEB 5605 - Limnology Laboratory (2.0 cr)
•EEB 5609 - Ecosystem Ecology (3.0 cr)
•EEB 5963 - Modeling Nature and the Nature of Modeling (3.0 cr)
•GCD 3485 - Bioinformatic Analysis: Introduction to the Computational Characterization of Genes and Proteins (3.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4034 - Molecular Genetics (3.0 cr)
•GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
•GCD 4134 - Endocrinology (3.0 cr)
•GCD 4143 - Human Genetics (3.0 cr)
•GCD 4151 - Molecular Biology of Cancer (3.0 cr)
•GCD 4161 - Developmental Biology (3.0 cr)
•GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
•GCD 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•GCD 4993 - Directed Studies (1.0 - 7.0 cr)
•GCD 4994 - Directed Research (1.0 - 6.0 cr)
•GCD 5036 - Molecular Cell Biology (3.0 cr)
•MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
•MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)
•MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•MICB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4993 - Directed Studies (1.0 - 6.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
•NSCI 3001W - Neuroscience and Society [CIV, WI] (4.0 cr)
•NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
•NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
•NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
•NSCI 4105 - Neurobiology Laboratory I (3.0 cr)
•NSCI 4151 - Advanced Topics in Neuroscience (3.0 cr)
•NSCI 4167 - Neuroscience in the Community (1.0 - 3.0 cr)
•NSCI 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4993 - Directed Studies (1.0 - 7.0 cr)
•NSCI 4994 - Directed Research (1.0 - 6.0 cr)
•NSC 5031W - Perception [WI] (3.0 cr)
•NSC 5037 - Psychology of Hearing (3.0 cr)
•NSC 5040 - Brain Networks: From Connectivity to Dynamics (4.0 cr)
•NSC 5201 - Computational Neuroscience I: Membranes and Channels (3.0 cr)
•NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
•NSC 5203 - Basic and Clinical Vision Science (3.0 cr)
•NSC 5461 - Cellular and Molecular Neuroscience (4.0 cr)
•NSC 5462 - Neuroscience Principles of Drug Abuse (2.0 cr)
•NSC 5481 - Invertebrate Neurobiology (3.0 cr)
•NSC 5540 - Advanced Survey of Biomedical Neuroscience (2.0 cr)

- NSC 5551 - Itasca Cell and Molecular Neurobiology Laboratory (4.0 cr)
- NSC 5561 - Systems Neuroscience (4.0 cr)
- NSC 5661W - Behavioral Neuroscience [WI] (3.0 cr)
- NSC 5667 - Neurobiology in Disease (2.0 - 3.0 cr)
- NSC 5668 - Neurodegeneration and Repair (2.0 cr)
- PBIO 4321 - Minnesota Flora (3.0 cr)
- PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
- PBIO 4511 - Flowering Plant Diversity (3.0 cr)
- PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
- PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
- PBIO 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
- PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- PBIO 4993 - Directed Studies (1.0 - 7.0 cr)
- PBIO 4994 - Directed Research (1.0 - 6.0 cr)
- PBIO 5109 - Current Questions in Fungal Biology (2.0 cr)
- PBIO 5301 - Plant Genomics (3.0 cr)
- BIOL 5309 - Molecular Ecology And Ecological Genomics (3.0 cr)
- PBIO 5412 - Plant Physiology (3.0 cr)
- PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
- PBIO 5516 - Plant Cell Biology (3.0 cr)
- PBIO 5601 - Topics in Plant Biochemistry (3.0 cr)
- PBIO 5960 - Special Topics (1.0 - 3.0 cr)
- BMEN 2501 - Cellular and Molecular Biology for Biomedical Engineers [BIOL] (4.0 cr)
- CHEM 4001 - Chemistry of Biomass and Biomass Conversion to Fuels and Products [ENV] (4.0 cr)
- CHEM 4412 - Chemical Biology of Enzymes (3.0 cr)
- CHEM 4413 - Nucleic Acids (3.0 cr)
- CSCI 3003 - Introduction to Computing in Biology (3.0 cr)
- CSCI 3081W - Program Design and Development [WI] (4.0 cr)
- CSCI 3921W - Social, Legal, and Ethical Issues in Computing [CIV, WI] (3.0 cr)
- CSCI 3980 - Undergraduate Colloquium (1.0 cr)
- CSCI 4980 - Special Topics in Computer Science for Undergraduates (1.0 - 3.0 cr)
- MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)
- MATH 5445 - Mathematical Analysis of Biological Networks (4.0 cr)
- MATH 5447 - Theoretical Neuroscience (4.0 cr)
- PHCL 4001 - Mechanisms of Drug Action (2.0 cr)
- PHYS 3022 - Introduction to Cosmology (3.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
- STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
- STAT 3022 - Data Analysis (4.0 cr)
- STAT 4101 - Theory of Statistics I (4.0 cr)
- STAT 4102 - Theory of Statistics II (4.0 cr)
- VPM 4131 - Immunology (3.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
  or MICB 3303 - Biology of Microorganisms (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and BIOL 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Ecology, Evolution, and Behavior B.S.

Ecology, Evolution & Behavior

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 73 to 85
- Degree: Bachelor of Science

Students majoring in ecology, evolution, and behavior (EEB) focus on three related areas of biology. Ecology examines the growth and maintenance of populations and their interactions in communities, and relationships among organisms and physical events in terrestrial and aquatic ecosystems. Evolution investigates the origin and change of biological diversity by studying evolutionary patterns and processes at various temporal and spatial scales. Behavioral biology explores behavioral adaptations to the environment, mechanisms of behavior, and the evolution of social systems.

A B.S. in EEB prepares students for graduate study in integrative biology and related biological sciences, careers in teaching, and entry-level scientist positions in industry, government agencies, nonprofit agencies, and universities.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Quantitative Requirement

Quantitative I

MATH 1241 - Calculus and Dynamical Systems in Biology [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
BIOL 3272 - Applied Biostatistics (3.0 cr)
or MATH 1272 - Calculus II (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or CSCI 1901 - Structure of Computer Programming I (4.0 cr)
or CSCI 3003 - Introduction to Computing in Biology (3.0 cr)

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Additional Chemistry I

BIOC 2331 - Chemical Mechanisms in Biology (3.0 cr)

or CHEM 2301 - Organic Chemistry I (3.0 cr)
Additional Chemistry II
CHEM 2302 - Organic Chemistry II (3.0 cr)
or EEB 4611 - Biogeochemical Processes (3.0 cr)

Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

General Biology
BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

Organismal Biology
Courses, or course pairs, must be from two different groups.
Take 2 or more course(s) from the following:
•**Animal Biology**
•BIOL 2012 - General Zoology (4.0 cr)
or BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3061 - Principles of Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•**Plant Biology**
•BIOL 2022 - General Botany (3.0 cr)
or BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•**Microbiology**
•VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)

Biology Core
BIOL 3807 and 3811, which are summer courses offered at the Itasca Biological Station, can count toward the biology core and the field/lab experience.
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOL 4003 - Genetics (3.0 cr)
Take 2 or more course(s) from the following:
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or BIOL 3807 - Ecology (4.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
or BIOL 3811 - Introduction to Animal Behavior (4.0 cr)

EEB Major Electives
The 13 credits include the field/lab experience, upper division EEB requirement, and additional electives as needed. Field/lab experience courses can count in other areas of the major. Directed research must be completed for a minimum of 4 credits and a maximum of 6 credits to count for the field/lab experience; credits can be split over multiple terms using 4994, 4794W, or both. Contact the EEB director of undergraduate studies to discuss alternative options for the field/lab experience.
Take 13 or more credits(s) from the following:
•**Field/Lab Experience**
•Take 4 or more credits(s) from the following:
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3820 - Aquatic Toxicology (2.0 cr)
•BIOL 3825 - Ecological Genetics (2.0 cr)

- BIOL 4035 - Metagenomics Laboratory (3.0 cr)
- BIOL 4850 - Special Topics in Biology (1.0 - 5.0 cr)
- BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
- BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
- EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- EEB 4801 *{Inactive}*(4.0 cr)
- EEB 4809 *{Inactive}*(3.0 cr)
- EEB 4814 - Plant Community Ecology (4.0 cr)
- EEB 4817 - Vertebrate Ecology (4.0 cr)
- EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
- EEB 4839 - Field Studies in Mammalogy (4.0 cr)
- EEB 4842 - Arctic Field Ecology (4.0 cr)
- EEB 4844 - Field Ornithology (4.0 cr)
- EEB 4994 - Directed Research (1.0 - 6.0 cr)
- EEB 5605 - Limnology Laboratory (2.0 cr)

•Upper Division EEB

- Take 7 or more credits(s) from the following:
- EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
- EEB 4014 *{Inactive}*(3.0 cr)
- EEB 4068 - Plant Physiological Ecology (3.0 cr)
- EEB 4129 - Mammalogy (4.0 cr)
- EEB 4134 - Introduction to Ornithology (4.0 cr)
- EEB 4329 - Primate Ecology and Social Behavior (3.0 cr)
- EEB 4330 - Animal Communication (3.0 cr)
- EEB 4611 - Biogeochemical Processes (3.0 cr)
- EEB 4631 *{Inactive}*(4.0 cr)
- EEB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
- EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
- EEB 4801 *{Inactive}*(4.0 cr)
- EEB 4809 *{Inactive}*(3.0 cr)
- EEB 4814 - Plant Community Ecology (4.0 cr)
- EEB 4817 - Vertebrate Ecology (4.0 cr)
- EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
- EEB 4839 - Field Studies in Mammalogy (4.0 cr)
- EEB 4842 - Arctic Field Ecology (4.0 cr)
- EEB 4844 - Field Ornithology (4.0 cr)
- EEB 4993 - Directed Studies (1.0 - 7.0 cr)
- EEB 4994 - Directed Research (1.0 - 6.0 cr)
- EEB 5001 *{Inactive}*(3.0 cr)
- EEB 5042 - Quantitative Genetics (3.0 cr)
- EEB 5033 *{Inactive}*(4.0 cr)
- EEB 5053 - Ecology: Theory and Concepts (4.0 cr)
- EEB 5068 - Plant Physiological Ecology (3.0 cr)
- EEB 5146 - Science and Policy of Global Environmental Change (3.0 cr)
- EEB 5221 - Molecular Evolution (3.0 cr)
- EEB 5321 *{Inactive}*(3.0 cr)
- EEB 5322 - Evolution and Animal Cognition (3.0 cr)
- EEB 5323 - Neural and Endocrine Mechanisms Underlying Vertebrate Behavior (2.0 cr)
- EEB 5327 *{Inactive}*(3.0 cr)
- EEB 5371 - Principles of Systematics (3.0 cr)
- EEB 5601 - Limnology (3.0 cr)
- EEB 5605 - Limnology Laboratory (2.0 cr)
- EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
  or EEB 5963 - Modeling Nature and the Nature of Modeling (3.0 cr)
- EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
  or EEB 5609 - Ecosystem Ecology (3.0 cr)
- EEB 3002 - Sex, Evolution, and Behavior: Examining Human Evolutionary Biology (4.0 cr)
  or ANTH 3002 - Sex, Evolution, and Behavior: Examining Human Evolutionary Biology (4.0 cr)

•Additional Electives

- Take 0 - 6 credits(s) from the following:
- BIOC 3960 - Research Topics in Biochemistry (1.0 cr)
- BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
- BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
- BIOC 4185 - Laboratory in Molecular Genetics (3.0 cr)
- BIOC 4225 - Laboratory in NMR Techniques (1.0 cr)

•BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
•BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
•BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)
•BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
•BIOC 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4950 - Computer Simulation and Data Analysis in Biochemistry (3.0 cr)
•BIOC 4960 - Special Topics in Biochemistry (3.0 cr)
•BIOC 4993 - Directed Studies (1.0 - 7.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOC 5001 - Biochemistry, Molecular and Cellular Biology (5.0 cr)
•BIOC 5213 - Selected Topics in Molecular Biology (3.0 cr)
•BIOC 5225 - Graduate Laboratory in NMR Techniques (1.0 cr)
•BIOC 5309 - Biocatalysis and Biodegradation (3.0 cr)
•BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
•BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
•BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
•BIOC 5444 - Muscle (3.0 cr)
•BIOC 5527 - Introduction to Modern Structural Biology (4.0 cr)
•BIOC 5528 - Spectroscopy and Kinetics (4.0 cr)
•BIOC 5531 - Macromolecular Crystallography I: Fundamentals and Techniques (1.0 cr)
•BIOC 5532 - Macromolecular Crystallography II: Techniques and Applications (1.0 cr)
•BIOC 5960 - Special Topics in Biochemistry (3.0 cr)
•BIOL 3002 - Plant Biology: Function (2.0 cr)
•BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 3209 - Understanding the Evolution-Creationism Controversy [CIV] (3.0 cr)
•BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
•BIOL 3272 - Applied Biostatistics (3.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
•BIOL 3408W - Ecology [WI] (3.0 cr)
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
•BIOL 3503 - Biology of Aging (2.0 cr)
•BIOL 3600 - Directed Instruction (1.0 - 2.0 cr)
•BIOL 3700 - Undergraduate Seminar (1.0 - 3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3820 - Aquatic Toxicology (2.0 cr)
•BIOL 3825 - Ecological Genetics (2.0 cr)
•BIOL 3960H - Communicating in the Biological Sciences (1.0 cr)
•BIOL 4004 - Cell Biology (3.0 cr)
•BIOL 4035 - Metagenomics Laboratory (3.0 cr)
•BIOL 4501 *{Inactive}*(3.0 cr)
•BIOL 4700 - Cell Physiology (3.0 cr)
•BIOL 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
•BIOL 4850 - Special Topics in Biology (1.0 - 5.0 cr)
•BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
•BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
•BIOL 4950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOL 4993 - Directed Studies (1.0 - 6.0 cr)
•BIOL 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 5407 - Ecology (3.0 cr)
•BIOL 5409 - Evolution (3.0 cr)
•BIOL 5485 - Bioinformatics: Experimental Design and Computational Analysis in Systems Biology (3.0 cr)
•BIOL 5950 - Special Topics in Biology (1.0 - 4.0 cr)
•GCD 3485 - Bioinformatic Analysis: Introduction to the Computational Characterization of Genes and Proteins (3.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4034 - Molecular Genetics (3.0 cr)
•GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
•GCD 4134 - Endocrinology (3.0 cr)
•GCD 4143 - Human Genetics (3.0 cr)
•GCD 4151 - Molecular Biology of Cancer (3.0 cr)
•GCD 4161 - Developmental Biology (3.0 cr)

•GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
•GCD 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•GCD 4993 - Directed Studies (1.0 - 7.0 cr)
•GCD 4994 - Directed Research (1.0 - 6.0 cr)
•GCD 5036 - Molecular Cell Biology (3.0 cr)
•MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
•MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)
•MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•MICB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4993 - Directed Studies (1.0 - 6.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
•NSCI 3001W - Neuroscience and Society [CIV, WI] (4.0 cr)
•NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
•NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
•NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
•NSCI 4105 - Neurobiology Laboratory I (3.0 cr)
•NSCI 4151 - Advanced Topics in Neuroscience (3.0 cr)
•NSCI 4167 - Neuroscience in the Community (1.0 - 3.0 cr)
•NSCI 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4993 - Directed Studies (1.0 - 7.0 cr)
•NSCI 4994 - Directed Research (1.0 - 6.0 cr)
•NSC 5031W - Perception [WI] (3.0 cr)
•NSC 5037 - Psychology of Hearing (3.0 cr)
•NSC 5040 - Brain Networks: From Connectivity to Dynamics (4.0 cr)
•NSC 5201 - Computational Neuroscience I: Membranes and Channels (3.0 cr)
•NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
•NSC 5203 - Basic and Clinical Vision Science (3.0 cr)
•NSC 5461 - Cellular and Molecular Neuroscience (4.0 cr)
•NSC 5462 - Neuroscience Principles of Drug Abuse (2.0 cr)
•NSC 5481 - Invertebrate Neurobiology (3.0 cr)
•NSC 5661W - Behavioral Neuroscience [WI] (3.0 cr)
•NSC 5667 - Neurobiology in Disease (2.0 - 3.0 cr)
•NSC 5668 - Neurodegeneration and Repair (2.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)
•PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
•PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
•PBIO 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•PBIO 4993 - Directed Studies (1.0 - 7.0 cr)
•PBIO 4994 - Directed Research (1.0 - 6.0 cr)
•PBIO 5109 - Current Questions in Fungal Biology (2.0 cr)
•PBIO 5301 - Plant Genomics (3.0 cr)
•BIOL 5309 - Molecular Ecology And Ecological Genomics (3.0 cr)
•PBIO 5412 - Plant Physiology (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
•PBIO 5516 - Plant Cell Biology (3.0 cr)
•PBIO 5601 - Topics in Plant Biochemistry (3.0 cr)
•PBIO 5960 - Special Topics (1.0 - 3.0 cr)
•FW 4136 - Ichthyology (4.0 cr)
•MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)
•VPM 4131 - Immunology (3.0 cr)
•MICB 3301 - Biology of Microorganisms (5.0 cr)
or MICB 3303 - Biology of Microorganisms (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Genetics, Cell Biology, and Development B.S.

Genetics, Cell Biology, and Development TCBS

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 77 to 82
- Degree: Bachelor of Science

Genetics, cell biology, and development (GCD) focuses on the mechanisms by which genetic information is used to specify cell structure and function, and how that information drives cellular interactions that convert a single cell to develop into a complete organism. GCD students learn about advances in the field by studying model organisms like plants, fruit flies, zebrafish, and mice.

A B.S. in GCD prepares students for graduate study in molecular biology or related biological sciences, for professional training programs in health sciences, careers in teaching, and entry-level positions in industry, government agencies, or universities.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Organic Chemistry

CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)

Quantitative Requirement

Quantitative I

MATH 1241 - Calculus and Dynamical Systems in Biology [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Quantitative II

BIOL 3272 - Applied Biostatistics (3.0 cr)
or CSCI 1901 - Structure of Computer Programming I (4.0 cr)
or CSCI 3003 - Introduction to Computing in Biology (3.0 cr)
or MATH 1272 - Calculus II (4.0 cr)

or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

General Biology
BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

Organismal Biology
Take 1 or more course(s) from the following:
•**Animal Biology**
•BIOL 2012 - General Zoology (4.0 cr)
or BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3061 - Principles of Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
•**Plant Biology**
•BIOL 2022 - General Botany (3.0 cr)
or BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•**Microbiology**
•VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)

Biology Core
BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or BIOL 3807 - Ecology (4.0 cr)
or BIOL 3409 - Evolution (3.0 cr)
or BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
or BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOL 4003 - Genetics (3.0 cr)
BIOL 4004 - Cell Biology (3.0 cr)

GCD Major Electives
Total of three courses are required from at least two of the following areas: genetics, cell biology, developmental biology. GCD 4151, 4161, 4171, and PBIO 5514 cannot count in more than one area. To count as an elective lab, directed research must be completed for a minimum of 3 credits; credits can be split over multiple terms using 4994, 4794W, or a combination of the two. A maximum of 7 credits of directed research can count for major electives.
Take 18 or more credits(s) from the following:
•**Elective Labs**
•Take 1 or more course(s) from the following:
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOL 4035 - Metagenomics Laboratory (3.0 cr)
•GCD 3485 - Bioinformatic Analysis: Introduction to the Computational Characterization of Genes and Proteins (3.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•GCD 4994 - Directed Research (1.0 - 6.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•**Genetics**

•Take 0 - 3 course(s) from the following:
•EEB 5042 - Quantitative Genetics (3.0 cr)
•GCD 4034 - Molecular Genetics (3.0 cr)
•GCD 4143 - Human Genetics (3.0 cr)
•GCD 4151 - Molecular Biology of Cancer (3.0 cr)
•GCD 4161 - Developmental Biology (3.0 cr)
•GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
•MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)

•Cell Biology
•Take 0 - 3 course(s) from the following:
•GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
•GCD 4134 - Endocrinology (3.0 cr)
•GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
•GCD 5036 - Molecular Cell Biology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
•VPM 4131 - Immunology (3.0 cr)
•PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
or PBIO 5516 - Plant Cell Biology (3.0 cr)

•Developmental Biology
•Take 0 - 3 course(s) from the following:
•GCD 4151 - Molecular Biology of Cancer (3.0 cr)
•GCD 4161 - Developmental Biology (3.0 cr)
•GCD 4171 - Stem Cells in Biology and Medicine (3.0 cr)
•NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)

•Additional Electives
•Take 0 - 7 credits(s) from the following:
•BIOL 3002 - Plant Biology: Function (2.0 cr)
•BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 3209 - Understanding the Evolution-Creationism Controversy [CIV] (3.0 cr)
•BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
•BIOL 3272 - Applied Biostatistics (3.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
•BIOL 3408W - Ecology [WI] (3.0 cr)
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
•BIOL 3503 - Biology of Aging (2.0 cr)
•BIOL 3600 - Directed Instruction (1.0 - 2.0 cr)
•BIOL 3610 - Internship: Professional Experience in Biological Sciences (1.0 - 6.0 cr)
•BIOL 3700 - Undergraduate Seminar (1.0 - 3.0 cr)
•BIOL 3807 - Ecology (4.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3820 - Aquatic Toxicology (2.0 cr)
•BIOL 3825 - Ecological Genetics (2.0 cr)
•BIOL 4035 - Metagenomics Laboratory (3.0 cr)
•BIOL 4201 - Teaching in the Biology Laboratory (1.0 cr)
•BIOL 4501 *{Inactive}*(3.0 cr)
•BIOL 4700 - Cell Physiology (3.0 cr)
•BIOL 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOL 4794W - Directed Research [WI] (1.0 - 6.0 cr)
•BIOL 4850 - Special Topics in Biology (1.0 - 5.0 cr)
•BIOL 4862 - Biological Photography and Digital Imaging Techniques (3.0 cr)
•BIOL 4894 - Directed Research at Itasca (1.0 - 7.0 cr)
•BIOL 4950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOL 4993 - Directed Studies (1.0 - 6.0 cr)
•BIOL 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 5407 - Ecology (3.0 cr)
•BIOL 5409 - Evolution (3.0 cr)
•BIOL 5485 - Bioinformatics: Experimental Design and Computational Analysis in Systems Biology (3.0 cr)
•BIOL 5511 - Teaching the Biological Sciences (3.0 cr)
•BIOL 5950 - Special Topics in Biology (1.0 - 4.0 cr)
•BIOC 3960 - Research Topics in Biochemistry (1.0 cr)

•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4185 - Laboratory in Molecular Genetics (3.0 cr)
•BIOC 4225 - Laboratory in NMR Techniques (1.0 cr)
•BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
•BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
•BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)
•BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
•BIOC 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4950 - Computer Simulation and Data Analysis in Biochemistry (3.0 cr)
•BIOC 4960 - Special Topics in Biochemistry (3.0 cr)
•BIOC 4993 - Directed Studies (1.0 - 7.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOC 5001 - Biochemistry, Molecular and Cellular Biology (5.0 cr)
•BIOC 5213 - Selected Topics in Molecular Biology (3.0 cr)
•BIOC 5309 - Biocatalysis and Biodegradation (3.0 cr)
•BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
•BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
•BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
•BIOC 5444 - Muscle (3.0 cr)
•BIOC 5527 - Introduction to Modern Structural Biology (4.0 cr)
•BIOC 5528 - Spectroscopy and Kinetics (4.0 cr)
•BIOC 5531 - Macromolecular Crystallography I: Fundamentals and Techniques (1.0 cr)
•BIOC 5532 - Macromolecular Crystallography II: Techniques and Applications (1.0 cr)
•BIOC 5960 - Special Topics in Biochemistry (3.0 cr)
•EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
•EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
•EEB 4014 *{Inactive}*(3.0 cr)
•EEB 4068 - Plant Physiological Ecology (3.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•EEB 4329 - Primate Ecology and Social Behavior (3.0 cr)
•EEB 4330 - Animal Communication (3.0 cr)
•EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
•EEB 4611 - Biogeochemical Processes (3.0 cr)
•EEB 4631 *{Inactive}*(4.0 cr)
•EEB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•EEB 4801 *{Inactive}*(4.0 cr)
•EEB 4809 *{Inactive}*(3.0 cr)
•EEB 4814 - Plant Community Ecology (4.0 cr)
•EEB 4817 - Vertebrate Ecology (4.0 cr)
•EEB 4825 - Telemetry and Animal Behavior (2.0 cr)
•EEB 4839 - Field Studies in Mammalogy (4.0 cr)
•EEB 4842 - Arctic Field Ecology (4.0 cr)
•EEB 4844 - Field Ornithology (4.0 cr)
•EEB 4993 - Directed Studies (1.0 - 7.0 cr)
•EEB 4994 - Directed Research (1.0 - 6.0 cr)
•EEB 5001 *{Inactive}*(3.0 cr)
•EEB 5009 *{Inactive}*(3.0 cr)
•EEB 5013 *{Inactive}*(2.0 cr)
•EEB 5033 *{Inactive}*(4.0 cr)
•EEB 5042 - Quantitative Genetics (3.0 cr)
•EEB 5053 - Ecology: Theory and Concepts (4.0 cr)
•EEB 5068 - Plant Physiological Ecology (3.0 cr)
•EEB 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•EEB 5221 - Molecular Evolution (3.0 cr)
•EEB 5321 *{Inactive}*(3.0 cr)
•EEB 5322 - Evolution and Animal Cognition (3.0 cr)
•EEB 5323 - Neural and Endocrine Mechanisms Underlying Vertebrate Behavior (2.0 cr)
•EEB 5327 *{Inactive}*(3.0 cr)
•EEB 5605 - Limnology Laboratory (2.0 cr)
•EEB 5609 - Ecosystem Ecology (3.0 cr)
•EEB 5963 - Modeling Nature and the Nature of Modeling (3.0 cr)

•MICB 3303 - Biology of Microorganisms (3.0 cr)
•MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
•MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)
•MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•MICB 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4993 - Directed Studies (1.0 - 6.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
•NSCI 3001W - Neuroscience and Society [CIV, WI] (4.0 cr)
•NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
•NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
•NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
•NSCI 4105 - Neurobiology Laboratory I (3.0 cr)
•NSCI 4151 - Advanced Topics in Neuroscience (3.0 cr)
•NSCI 4167 - Neuroscience in the Community (1.0 - 3.0 cr)
•NSCI 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4993 - Directed Studies (1.0 - 7.0 cr)
•NSCI 4994 - Directed Research (1.0 - 6.0 cr)
•NSC 5031W - Perception [WI] (3.0 cr)
•NSC 5037 - Psychology of Hearing (3.0 cr)
•NSC 5040 - Brain Networks: From Connectivity to Dynamics (4.0 cr)
•NSC 5201 - Computational Neuroscience I: Membranes and Channels (3.0 cr)
•NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
•NSC 5203 - Basic and Clinical Vision Science (3.0 cr)
•NSC 5461 - Cellular and Molecular Neuroscience (4.0 cr)
•NSC 5462 - Neuroscience Principles of Drug Abuse (2.0 cr)
•NSC 5481 - Invertebrate Neurobiology (3.0 cr)
•NSC 5540 - Advanced Survey of Biomedical Neuroscience (2.0 cr)
•NSC 5551 - Itasca Cell and Molecular Neurobiology Laboratory (4.0 cr)
•NSC 5561 - Systems Neuroscience (4.0 cr)
•NSC 5661W - Behavioral Neuroscience [WI] (3.0 cr)
•NSC 5667 - Neurobiology in Disease (2.0 - 3.0 cr)
•NSC 5668 - Neurodegeneration and Repair (2.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4404 - Developmental Plant Anatomy (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)
•PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
•PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
•PBIO 4793W - Directed Studies: Writing Intensive [WI] (1.0 - 7.0 cr)
•PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•PBIO 4993 - Directed Studies (1.0 - 7.0 cr)
•PBIO 4994 - Directed Research (1.0 - 6.0 cr)
•PBIO 5109 - Current Questions in Fungal Biology (2.0 cr)
•PBIO 5301 - Plant Genomics (3.0 cr)
•BIOL 5309 - Molecular Ecology And Ecological Genomics (3.0 cr)
•PBIO 5412 - Plant Physiology (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
•PBIO 5516 - Plant Cell Biology (3.0 cr)
•PBIO 5601 - Topics in Plant Biochemistry (3.0 cr)
•PBIO 5960 - Special Topics (1.0 - 3.0 cr)
•BMEN 2501 - Cellular and Molecular Biology for Biomedical Engineers [BIOL] (4.0 cr)
•FW 4136 - Ichthyology (4.0 cr)
•MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)
•PHCL 4001 - Mechanisms of Drug Action (2.0 cr)
•MICB 3301 - Biology of Microorganisms (5.0 cr)
or MICB 3303 - Biology of Microorganisms (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and BIOL 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Microbiology B.S.

Microbiology

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 73 to 80
- Degree: Bachelor of Science

Microbiologists study the structure, function, and interaction of microbes, which make up 60 percent of the earth's biomass. Regarded by many as the foundation of the biosphere, microbes were likely the first form of life on earth, predating plants and animals by more than three billion years. Microbiologists study the role of microbes, such as bacteria, fungi, and viruses in our world. A key goal of microbiologists is to find new ways to use microbes to our advantage, such as engineering bacteria to synthesize cancer drugs or clean up toxic waste sites.

The microbiology major prepares students for advanced work in graduate programs in microbiology and related fields and serves as preparation for careers in the health sciences. Microbiologists find employment in a variety of governmental, industrial, and pharmaceutical fields.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Additional Chemistry

BIOC 2331 - Chemical Mechanisms in Biology (3.0 cr)
or CHEM 2301 - Organic Chemistry I (3.0 cr)

Quantitative Requirement

MATH 1241 - Calculus and Dynamical Systems in Biology [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
Take exactly 1 course(s) from the following:

- BIOL 3272 - Applied Biostatistics (3.0 cr)
- MATH 1272 - Calculus II (4.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Physics

Students who take PHYS 1301W must have taken or have concurrent enrollment in MATH 1271. Students who take PHYS 1302W must have taken or have concurrent enrollment in MATH 1272.

PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

Biology Core

BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
MICB 3301 - Biology of Microorganisms (5.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOL 4003 - Genetics (3.0 cr)

Microbiology Major

Microbiology Major Core

Take exactly 4 course(s) from the following:
•MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
•BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
•BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
•BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
•MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
or MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)

Microbiology Labs

In order for directed research to fulfill one of the two required labs, 6 credits of MICB 4994 and/or 4794W must be completed over the course of two or more semesters.

Take 2 or more course(s) from the following:
•MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
•MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)

STEM Electives

Take 7 or more credits(s) from the following:
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4325 - Laboratory in Mass Spectrometry (1.0 cr)
•BIOC 4521 - Introduction to Physical Biochemistry (3.0 cr)
•BIOC 4950 - Computer Simulation and Data Analysis in Biochemistry (3.0 cr)
•BIOC 5309 - Biocatalysis and Biodegradation (3.0 cr)
•BIOC 5352 - Biotechnology and Bioengineering for Biochemists (3.0 cr)
•BIOC 5353 - Microbial Biochemistry and Biotechnology: Small Molecules (3.0 cr)
•BIOC 5361 - Microbial Genomics and Bioinformatics (3.0 cr)
•BIOC 5527 - Introduction to Modern Structural Biology (4.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•BIOL 3960H - Communicating in the Biological Sciences (1.0 cr)
•BIOL 4004 - Cell Biology (3.0 cr)
•BIOL 4960H - Thesis Writing in the Biological Sciences: Developing the Literature Review (1.0 cr)
•BIOL 5485 - Bioinformatics: Experimental Design and Computational Analysis in Systems Biology (3.0 cr)
•CHEM 2302 - Organic Chemistry II (3.0 cr)
•CHEM 2311 - Organic Lab (4.0 cr)
•CHEM 4412 - Chemical Biology of Enzymes (3.0 cr)
•CSCI 3003 - Introduction to Computing in Biology (3.0 cr)
•EEB 4611 - Biogeochemical Processes (3.0 cr)

- EEB 5042 - Quantitative Genetics (3.0 cr)
- EEB 5221 - Molecular Evolution (3.0 cr)
- GCD 4034 - Molecular Genetics (3.0 cr)
- GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
- GCD 4151 - Molecular Biology of Cancer (3.0 cr)
- GCD 5036 - Molecular Cell Biology (3.0 cr)
- MATH 5445 - Mathematical Analysis of Biological Networks (4.0 cr)
- NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
- NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
- STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
- STAT 3022 - Data Analysis (4.0 cr)
- STAT 4101 - Theory of Statistics I (4.0 cr)
- STAT 4102 - Theory of Statistics II (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and BIOL 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Neuroscience B.S.

Neuroscience

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 80 to 90
- Degree: Bachelor of Science

Neuroscience majors study the molecular and cellular building blocks that make up the brain and control its function. The study of neuroscience aims to understand how complex animals, including humans, see, hear, move, think, and feel. Neuroscientists also study abnormalities that cause diseases and mechanisms that underlie pain and addiction.

A B.S. in neuroscience prepares undergraduates to pursue advanced studies in neuroscience, professional degrees in medicine, or related fields.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Organic Chemistry

CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)

Quantitative Requirement

MATH 1271 - Calculus I [MATH] (4.0 cr)
Take exactly 1 course(s) from the following:

- BIOL 3272 - Applied Biostatistics (3.0 cr)
- MATH 1272 - Calculus II (4.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
- CSCI 1901 - Structure of Computer Programming I (4.0 cr)
- CSCI 3003 - Introduction to Computing in Biology (3.0 cr)

Physics

Physics Sequence A (Preferred)

PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)

General Biology

BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

Organismal Biology

Take 1 or more course(s) from the following:
•BIOL 2012 - General Zoology (4.0 cr)
or BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
or PHSL 3061 - Principles of Physiology (4.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)

Biology Core

BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or BIOL 3807 - Ecology (4.0 cr)
or BIOL 3409 - Evolution (3.0 cr)
or BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
or BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOL 4003 - Genetics (3.0 cr)
BIOL 4004 - Cell Biology (3.0 cr)

Neuroscience Requirements

NSCI 3101 - Introduction to Neuroscience I: From Molecules to Madness (3.0 cr)
NSCI 3102W - Introduction to Neuroscience II: Biological Basis of Behavior [WI] (3.0 cr)
NSCI 4100 - Development of the Nervous System: Cellular and Molecular Mechanisms (3.0 cr)
NSCI 4105 - Neurobiology Laboratory I (3.0 cr)
Take 1 or more course(s) totaling 2 or more credits(s) from the following:
•NSCI 4167 - Neuroscience in the Community (1.0 - 3.0 cr)
•NSCI 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•NSCI 4994 - Directed Research (1.0 - 6.0 cr)

Neuroscience Major Electives

Take 6 or more credits(s) including 2 or more sub-requirements(s) from the following:
•**Group A - Upper Level Courses**
•One course is required from Group A. Students may elect to take the Mind, Brain, Education section of EPSY 5200 (Special Topics: Psychological Foundations) to fulfill the Group A requirement. Students must submit a petition to the CBS Scholastics Committee to have this course applied to fulfill the Group A requirement.
•EEB 4330 - Animal Communication (3.0 cr)
or EEB 5221 - Molecular Evolution (3.0 cr)
or EEB 5321 *{Inactive}*(3.0 cr)
or GCD 4034 - Molecular Genetics (3.0 cr)
or GCD 5036 - Molecular Cell Biology (3.0 cr)
or NSC 5201 - Computational Neuroscience I: Membranes and Channels (3.0 cr)
or NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
or NSC 5203 - Basic and Clinical Vision Science (3.0 cr)
or NSC 5461 - Cellular and Molecular Neuroscience (4.0 cr)
or NSC 5462 - Neuroscience Principles of Drug Abuse (2.0 cr)
or NSC 5561 - Systems Neuroscience (4.0 cr)
or NSC 5661W - Behavioral Neuroscience [WI] (3.0 cr)
or NSC 5667 - Neurobiology in Disease (2.0 - 3.0 cr)

or PSY 5036W - Computational Vision [WI] (3.0 cr)
or PSY 5038W - Introduction to Neural Networks [WI] (3.0 cr)

•**Group B - The Scientific Method: History and Philosophy**
•One course required in Group B
•BIOL 5272 - Applied Biostatistics (3.0 cr)
or HMED 3001W - Health, Disease, and Healing I [HIS, WI] (4.0 cr)
or HMED 3002W - Health Care in History II [HIS, WI] (3.0 cr)
or HSCI 3211 - Biology and Culture in the 19th and 20th Centuries [HIS] (3.0 cr)
or HSCI 3242 - The Darwinian Revolution [HIS] (3.0 cr)
or NSCI 3001W - Neuroscience and Society [CIV, WI] (4.0 cr)
or PHIL 3601W - Scientific Thought [WI] (4.0 cr)
or PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
or PSY 3801 - Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or PSY 3801H - Honors Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or STAT 3021 - Introduction to Probability and Statistics (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed Research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Plant Biology B.S.

Plant Biology

College of Biological Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 67 to 87
- Degree: Bachelor of Science

Plant biologists study all aspects of biology as they pertain to plants or fungi and make important contributions to analyzing and preserving biodiversity worldwide. They work to enhance the nutritional value of crops, as well as their resistance to disease, pests, and drought while working to reduce the need for pesticides, fertilizer, and irrigation.

Current faculty research interests include genomics, gene expression, chromosome structure, plant growth substances, signal transduction, plant responses to stress, the plant cytoskeleton and cell morphogenesis, metabolic activities during development, cellular structure and ultrastructure of vascular and nonvascular plants, aquatic biology, lichenology, molecular evolution and systematics, fungal/plant interactions, biological rhythms, and fungal diversity.

Plant biology majors follow one of two tracks. One track fits the need of students who are primarily interested in environmental biology, evolution, or other aspects of whole organisms; the other track is appropriate for students interested in molecular, cellular, and development biology. All plant biology majors are guaranteed experience in a research laboratory, as long as they show satisfactory progress toward their degree and make arrangements by the middle of their junior year.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshmen students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Chemistry

Chemical Principles I

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Chemical Principles II

CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Additional Chemistry

Additional Chemistry I

BIOC 2331 - Chemical Mechanisms in Biology (3.0 cr)
or CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)

Additional Chemistry II

CHEM 2311 - Organic Lab (4.0 cr)

or BIOC 4025 - Laboratory in Biochemistry (2.0 cr)

Quantitative Requirement

Quantitative I

MATH 1241 - Calculus and Dynamical Systems in Biology [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Quantitative II

Take exactly 1 course(s) from the following:
•BIOL 3272 - Applied Biostatistics (3.0 cr)
•CSCI 3003 - Introduction to Computing in Biology (3.0 cr)
•MATH 1272 - Calculus II (4.0 cr)
•STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Physics

Students who take PHYS 1301W must have taken or have concurrent enrollment in MATH 1271. Students who take PHYS 1302W must have taken or have concurrent enrollment in MATH 1272.
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

General Biology

BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or BIOL 2002H - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
BIOL 2004 - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)
or BIOL 2004H - Foundations of Biology for Biological Sciences Majors, Part II Laboratory (3.0 cr)

General Plant Biology

BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
with BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)

Biology Core

BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or BIOL 3807 - Ecology (4.0 cr)
or BIOL 3409 - Evolution (3.0 cr)
BIOL 4003 - Genetics (3.0 cr)
BIOL 4004 - Cell Biology (3.0 cr)

Plant Biology Major Electives

One course must be completed from Group A and Group B. Courses from Group C may be used if additional credits are needed to reach 11 total credits. Other Group C electives can be approved by the director of undergraduate studies or a faculty mentor. Approval must be sent to CBS Student Services.
Take 11 or more credits(s) from the following:
•**Group A: Organismal Biology**
•Take 1 or more course(s) from the following:
•FR 3104 - Forest Ecology (4.0 cr)
•EEB 4068 - Plant Physiological Ecology (3.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)
•PLPA 5203 - Introduction to Fungal Biology (3.0 cr)
•**Group B: Cell Biology and Genetics**
•Take 1 or more course(s) from the following:
•PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
•PBIO 5301 - Plant Genomics (3.0 cr)
•BIOL 5309 - Molecular Ecology And Ecological Genomics (3.0 cr)
•PBIO 5412 - Plant Physiology (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
•PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
or PBIO 5516 - Plant Cell Biology (3.0 cr)

•**Group C: Statistics, Mathematics, and Electives**
•EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or STAT 3021 - Introduction to Probability and Statistics (3.0 cr)

Lab/Field Requirement
Any course 3xxx or higher offered at the Lake Itasca Biological Station and Laboratories may be used to fulfill the Lab/Field Requirement. BIOL 3005W or BIOL 3007W may be used for the Lab/Field Requirement if not used in the General Plant Biology area. Courses that are listed in both Major Electives Group A or B AND the Lab/Field Requirement can count in both areas.
Take 2 or more course(s) from the following:
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•BIOC 4994 - Directed Research (1.0 - 6.0 cr)
•BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
•BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
•EEB 4068 - Plant Physiological Ecology (3.0 cr)
•EEB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•EEB 4994 - Directed Research (1.0 - 6.0 cr)
•EEB 5605 - Limnology Laboratory (2.0 cr)
•FR 3104 - Forest Ecology (4.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•GCD 4994 - Directed Research (1.0 - 6.0 cr)
•MICB 3301 - Biology of Microorganisms (5.0 cr)
•MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
•MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
•MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
•MICB 4794W - Directed Research: Writing Intensive [WI] (1.0 - 7.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)
•PBIO 4794W - Directed Research: Writing Intensive [WI] (1.0 - 6.0 cr)
•PBIO 4994 - Directed Research (1.0 - 6.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirement, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

BIOL 2960H and 3960H are strongly recommended for CBS sophomores and juniors, respectively. Directed Research is the basis for an honors thesis completed in conjunction with BIOL 4960H.

Twin Cities Campus

Clinical Laboratory Science B.A.Sc.

Bachelor of Applied Science

College of Continuing Education

- **Students will no longer be accepted into this program after Spring 2007. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- This program requires summer terms.
- Degree: Bachelor of Applied Science

The bachelor of applied science (B.A.Sc.) degree with a major in clinical laboratory science (CLS) provides the education that clinical laboratory technicians/medical laboratory technicians (CLT/MLT) need for career advancement. Students obtain a strong foundation in the sciences and rich clinical laboratory experiences, and are prepared to work as clinical laboratory scientists, technical specialists, laboratory managers, lab coordinators, and quality control technologists. Graduates may take the national certification examinations to practice as a clinical laboratory scientist/medical technologist (CLS/MT). In partnership with MnSCU, students must complete a two-year CLT/MLT associate's degree before enrolling. This work cannot be completed at the University of Minnesota.

Students admitted to the CLS major follow the upper division curriculum for the medical technology program along with the medical technology cohort. Most students are likely to need a total of more than four years (including associate degree work) or significant summer work to complete the program.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

A transfer student must have completed the Medical Laboratory Technician (MLT) two-year degree program or be near completion before applying for official admission to the B.A.Sc.-CLS degree program. The cumulative GPA for science courses will also be reviewed as part of the admission decision.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

There is no distinct and independent CLS upper division curriculum. CLS students join the medical technology cohort and follow their exact curriculum.

General Education and Prerequisite Courses

Students should also take one upper division writing intensive course, and one humanities/fine arts course.
PHSL 3051 - Human Physiology (4.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOL 2032 *{Inactive}*(4.0 cr)

BIOC 3021 - Biochemistry (3.0 cr)
CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
GCD 3022 - Genetics (3.0 cr)
or BIOL 4003 - Genetics (3.0 cr)
Take 2 or more course(s) from the following:
•PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
•SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
•PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
•PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)

Prerequisite Mathematics Courses
Take 2 or more course(s) from the following:
•MATH 1051 - Precalculus I [MATH] (3.0 cr)
•MATH 1142 - Short Calculus [MATH] (4.0 cr)
•MATH 1155 - Intensive Precalculus [MATH] (5.0 cr)
•MATH 1271 - Calculus I [MATH] (4.0 cr)
•MATH 1272 - Calculus II (4.0 cr)
•STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Clinical Courses
These courses should be completed during the 22 weeks of clinical rotations in the summer and fall terms following the senior year, including six weeks of clinical chemistry, five weeks in hematology and coagulation, five weeks in immunohematology, five weeks in microbiology, and one week in a specialty laboratory area.
CLSP 4703 - Applied Clinical Chemistry and Urinalysis (2.0 cr)
CLSP 4702 - Applied Clinical Hematology/Hemostasis (2.0 cr)
CLSP 4704 - Applied Transfusion Medicine (2.0 cr)
CLSP 4701 - Applied Diagnostic Microbiology (2.0 cr)
CLSP 4089 *{Inactive}*(1.0 cr)

Senior Year Courses
CLSP 4501 - Introduction to Transfusion Medicine (2.0 cr)
CLSP 4502 - Introduction to Transfusion Medicine: Labortory (2.0 cr)
CLSP 4101 - Diagnostic Microbiology II (2.0 cr)
CLSP 4102 - Principles of Diagnostic Microbiology (2.0 cr)
CLSP 4103 - Diagnostic Microbiology: Laboratory (2.0 cr)
CLSP 4602 - Basic Concepts in Education and Research as Applied to the Clinical Laboratory (1.0 cr)
CLSP 4203 - Hemostasis (1.0 cr)
CLSP 4302 - Clinical Chemistry I: Lecture and Lab (3.0 cr)
CLSP 4311 *{Inactive}*(2.0 cr)
CLSP 4304 - Clinical Chemistry II: Lecture (2.0 cr)
CLSP 4305 - Clinical Chemistry II: Laboratory (2.0 cr)
CLSP 4401 - Immunology (1.0 cr)
CLSP 4201 - Hematology I (3.0 cr)
CLSP 4202 - Hematology II (2.0 cr)

Twin Cities Campus

Construction Management B.A.Sc.

CCE Applied Professional Studies

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 51
- Degree: Bachelor of Applied Science

Construction management transforms project design and its engineering requirements into a physical structure, focusing on management and business skills needed to deliver high quality construction results on time and within budget. The major offers experience and education leading directly to a professional management career in high demand areas in the construction industry, including residential, commercial, industrial, institutional, highway/heavy and process systems sectors. The construction management major is offered in close collaboration with the Minnesota construction industry.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students who have 30 transferable semester credits, preferred minimum 2.50 GPA, and a strong interest in the major may be admitted to pre-major status.

Each application for admission is individually reviewed in a holistic context.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Courses

Calculus

MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Physics

PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1107 - Introductory Physics Online I (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

Building Construction Plan Reading

CMGT 3011 - Construction Plan Reading (2.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Preparatory Courses

One course in arts, humanities or literature.
ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
CMGT 2019 - AutoCAD for Construction Managers (2.0 cr)
CMGT 3001 - Introduction to Construction (3.0 cr)

English Composition

WRIT 1301 - University Writing (4.0 cr)
or WRIT 1401 - Writing and Academic Inquiry (4.0 cr)

Technical Writing
ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
or WRIT 3001 - Professional Practices in Scientific and Technical Communication (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

Oral Communication
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3402 - Introduction to Interpersonal Communication (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)

Psychology or Sociology
PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)

Economics
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)

Statics
BBE 3101 - Introductory Statics and Structures for Construction Management (3.0 cr)
or AEM 2011 - Statics (3.0 cr)

Introduction to Management
ABUS 4022 - Management in Organizations (3.0 cr)
or MGMT 3001 - Fundamentals of Management (3.0 cr)

General Education Courses
The B.A.Sc. General Education (GE) requirement comprises 30 semester credits from four groups: written and oral communication; humanities and fine arts; history and social sciences; and math and natural sciences. At least one course must be taken from each group. Most GE credits will be satisfied by approved B.A.Sc. prerequisites and preparatory courses. Any remaining GE credits may be satisfied by any approved U of M Liberal Education course (see One Stop).

Major Core Courses
Minimum 3 credits internship experience required.
ABUS 4101 - Accounting and Finance for Managers (3.0 cr)
ABUS 4701 - Introduction to Marketing (3.0 cr)
CE 3202 - Surveying and Mapping (2.0 cr)
CMGT 4011 - Construction Documents and Contracts (3.0 cr)
CMGT 4013 - Legal, Ethical, and Risk Issues in Construction (3.0 cr)
CMGT 4021 - Construction Planning and Scheduling (3.0 cr)
CMGT 4022 - Construction Estimating (3.0 cr)
CMGT 4031 - Construction Safety and Loss Control (3.0 cr)
CMGT 4041W - Specifications and Technical Writing for Construction Professionals [WI] (3.0 cr)
CMGT 4051 - Construction Materials for Managers (3.0 cr)
CMGT 4201 - Construction Accounting (2.0 cr)
CMGT 4471 - Sustainability for Construction Managers (2.0 cr)
CMGT 4861 - Construction Management Capstone (2.0 cr)

Internship
Satisfactory completion of a 3-credit construction management internship experience is required.
CMGT 4196 - Construction Management Internship (1.0 - 4.0 cr)

Technical Electives
Consult your adviser about department recommended focus areas and courses. Complete 13 credits of technical electives.
Complete 8-9 credits of department approved construction science courses.
Complete 4-5 credits of other department approved technical electives.

Twin Cities Campus

Emergency Health Services B.A.Sc.

Bachelor of Applied Science

College of Continuing Education

- **Students will no longer be accepted into this program after Spring 2007. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 52
- This program is 10 terms (5 years) long.
- This program requires summer terms.
- Degree: Bachelor of Applied Science

The bachelor of applied science (B.A.Sc.) degree with a major in emergency health services is offered in partnership with Inver Hills Community College. The program is designed to provide personnel working in pre-hospital medical care with the education and skills necessary to coordinate and direct the delivery of emergency health services in a variety of settings, ranging from out-of-hospital, first-responder situations to occupational health and safety programs in large organizations. The emergency health services major was designed to meet the needs of working adults who are attending college part-time.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students must have current EMT paramedic state certification or be registered nurses currently employed in an emergency medical setting. Before admission, students must complete a minimum of 45 semester credits transferable to the emergency health services major, including the required prerequisite courses. Students must have these prerequisite courses completed or in progress before applying for official admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
PSTL 1166 *{Inactive}*(3.0 cr)
ANAT 3001 - Human Anatomy (3.0 cr)
PHSL 3051 - Human Physiology (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 1223 *{Inactive}*(3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students must complete 25 credits in either the management or education track. Both tracks include a practicum and elective courses.

Major Courses
ABUS 4023W - Communicating for Results [WI] (3.0 cr)
ABUS 4031 - Strategic Use of Business Information Systems (3.0 cr)
OLPD 5052 *{Inactive}*(3.0 cr)
EHS 4011 *{Inactive}*(3.0 cr)
EHS 4021 *{Inactive}*(3.0 cr)
PHIL 3305 - Medical Ethics (4.0 cr)
PUBH 3102 - Issues in Environmental and Occupational Health (3.0 cr)
EHS 5031 *{Inactive}*(3.0 cr)
or HSM 3501 *{Inactive}*(3.0 cr)
ABUS 4021 *{Inactive}*(3.0 cr)
or EPSY 5152 *{Inactive}*(3.0 cr)
or HRD 5302 *{Inactive}*(3.0 cr)
or PA 5131 *{Inactive}*(3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Education Track

Students must complete 25 credits related to the track.

Education Track
OLPD 5201 - Strategies for Teaching Adults (3.0 cr)
OLPD 5036 *{Inactive}*(3.0 cr)
EPSY 5115 - Psychology of Adult Learning and Instruction (3.0 cr)
EHS 4999 *{Inactive}*(1.0 - 3.0 cr)
HRD 5601 *{Inactive}*(2.0 cr)
Individual electives to total 25 credits in the track.
OLPD 5021 - Historical Foundations of Modern Education (3.0 cr)
or OLPD 5032 *{Inactive}*(3.0 cr)
or OLPD 5806 - Philosophy and Practice of Career and Technical Education (2.0 cr)
OLPD 5204 - Designing the Adult Education Program (3.0 cr)
or HRD 5629 *{Inactive}*(2.0 cr)
or HRD 5661 *{Inactive}*(2.0 cr)

Management Track

Students must complete 25 credits related to this track.

Management Track
ABUS 4101 - Accounting and Finance for Managers (3.0 cr)
ABUS 4104 - Management and Human Resource Practices (3.0 cr)
EHS 4999 *{Inactive}*(1.0 - 3.0 cr)
HSM 4541 - Health Care Finance (3.0 cr)
SCO 3001 - Introduction to Operations Management (3.0 cr)
Individual electives to total 25 credits in the track.
ABUS 4022 - Management in Organizations (3.0 cr)
or MGMT 3001 - Fundamentals of Management (3.0 cr)
ABUS 4012 - Strategic Decision Making and Problem Solving (3.0 cr)
or SCO 3059 - Quality Management and Lean Six Sigma (4.0 cr)

Twin Cities Campus

Information Technology Infrastructure B.A.Sc.

CCE Applied Professional Studies

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Applied Science

Information technology infrastructure (ITI) concerns the design, construction, and management of technology operations. The ITI major is the study and application of this knowledge to organizational and business needs. The curriculum combines a strong foundation in computer systems, networks, and data management with essential applied business courses. The ITI major prepares students for a variety of industrial, governmental, and business positions involving computer technology processes, policies, components, and services.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students who have 30 transferable semester credits, preferred minimum 2.50 GPA, and a strong interest in the major may be admitted to pre-major status.

Each application for admission is individually reviewed in a holistic context.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Courses

CSCI 1901 - Structure of Computer Programming I (4.0 cr)
CSCI 1902 - Structure of Computer Programming II (4.0 cr)
CSCI 2021 - Machine Architecture and Organization (4.0 cr)

Calculus

MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Physics

PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Consult a CCE ITI adviser about general education requirements for this major.

Preparatory Courses

One course in arts, humanities or literature.
ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
INET 3101 - C Programming: Language and Applications (2.0 cr)

If you plan to take elective CSCI courses beyond curriculum requirements, enroll in CSCI 2011
INET 3102 - Web Infrastructure (2.0 cr)
or CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)

English Composition
WRIT 1301 - University Writing (4.0 cr)
or WRIT 1401 - Writing and Academic Inquiry (4.0 cr)

Public Speaking or Interpersonal Communication
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3402 - Introduction to Interpersonal Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)

Statistics
PSTL 1004 - Statistics [MATH] (4.0 cr)
or SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Microeconomics
ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)

Technical Writing
One technical writing course or writing intensive science course.
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or WRIT 3001 - Professional Practices in Scientific and Technical Communication (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Core Courses
CSCI 4061 - Introduction to Operating Systems (4.0 cr)
CSCI 4211 - Introduction to Computer Networks (3.0 cr)
INET 4031 - System Administration (4.0 cr)
INET 4051 - IT Infrastructure Operations (3.0 cr)
INET 4082 - IT Infrastructure Projects and Processes (2.0 cr)
INET 4153 - Policy and Regulation: Effects on Global IT Infrastructure (3.0 cr)
INET 4707 - Practice of Database Systems (3.0 cr)
or CSCI 4707 - Practice of Database Systems (3.0 cr)

Technical Electives
Take 10 or more credits(s) from the following:
•INET 4011 - Network Administration (4.0 cr)
•INET 4021 - Network Programming (4.0 cr)
•INET 4032 - Storage Design and Administration (2.0 cr)
•INET 4041 - Emerging Network Technologies and Applications (3.0 cr)
•INET 4061 - Introduction to Data Warehousing (3.0 cr)
•INET 4083 - System Analysis and Design (2.0 cr)
•INET 4165 - Information Security: Technology, Ethics, Legality, and Standards (3.0 cr)
•INET 4709 - Database Administration (2.0 cr)
•INET 4596 - Internship (1.0 - 3.0 cr)
or INET 4193 - Directed Study (1.0 - 4.0 cr)

Business/Communication Courses

Management
ABUS 4022 - Management in Organizations (3.0 cr)
or HSM 4561 - Health Care Administration and Management (3.0 cr)

Business Communication
ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or HSM 4501 - Writing for the Health Professions (3.0 cr)

Cost Accounting
ABUS 4101 - Accounting and Finance for Managers (3.0 cr)
or HSM 4541 - Health Care Finance (3.0 cr)
or MM 4001 *{Inactive}*(3.0 cr)

Quality and Process Improvement
ABUS 3301 - Introduction to Quality Management (3.0 cr)
or MM 4201 - Quality Engineering and Process Improvement (3.0 cr)

Business/Communication Electives

Must be ABUS courses or other dept approved electives not included in core or technical requirement.
Take 6 or more credits(s) from the following:

- ABUS 3xxx
- ABUS 4xxx

Twin Cities Campus

Inter-College Program B.A.

CCE Individualized Degree and Inter-College Prog

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Arts

Founded in 1930, the Inter-College Program (ICP) embodies the University of Minnesota's commitment to individualized undergraduate education by providing cross-college, course/credit-based degree options. Drawing upon the curricular offerings of most of the University's colleges and departments, students design either a bachelor of arts (B.A.) or a bachelor of science (B.S.) degree incorporating a significant amount of coursework from at least two different colleges within the University system.

Most students design a degree drawing from two or three departmental areas from the University. Examples include addiction studies and psychology, or Carlson School of Management, manufacturing technology, and economics.

ICP is most appropriate for self-directed students whose educational backgrounds and career and intellectual interests require both a clear personal focus and a flexible interdisciplinary approach.

Interested students should attend an information session held several times each week. Academic advisers provide a detailed introduction to the program and help students begin the planning process.

For further information on the Inter-College Program, visit http://www.cce.umn.edu/Inter-College-Program/index.html.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 50 credits before admission to the program.

Students are considered for admission based on a review of their application. The review includes factors such as GPA, grade trends, performance in coursework relevant to proposed areas of study, and demonstrated ability to meet curricular and developmental expectations of individualized undergraduate education. Students must have attended a program information session and an initial degree planning appointment with an adviser.

Preferred benchmarks are a 2.50 GPA and 50 semester credits completed.

Students must develop a degree plan that includes:
* Academic and career goals.
* Courses proposed for the program.
* Approval of the plan from at least two faculty or departmental advisers.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 2 semester(s) of any second language.

Students are required to complete a second language requirement. Option 1: successfully complete the fourth semester of a single second language. Option 2: successfully complete the second semester of a single second language, plus 8 credits of additional language or culture study.

In applicable departmental areas, successful completion of the following courses will count toward the 50 credits: CHEM 2302, CSCI 2021, DHA 2463, FW 2001, PSY 2801.

ICP Oral Communication Requirement

ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or MGMT 3033W - Business Communication [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)

ICP Program Options

Two Area Cross-College Program

This plan combines courses from two area cross-college programs, such as CSOM and mass communications, or computer science and French.
Complete 20 approved credits of upper division coursework in one area of concentration.
Complete 20 approved credits of upper division coursework in a second area of concentration.
Complete 10 credits of elective upper division coursework.

-OR-

Three Area Cross-College Program

This plan combines courses from three area cross-college programs, such as applied business, communication studies, and psychology, or public health, child psychology, and family social science.
Complete 20 approved credits of upper division coursework in one area of concentration.
Complete 12 approved credits of upper division coursework in a second area of concentration.
Complete 12 approved credits of upper division coursework in a third area of concentration.
Complete 6 credits of elective upper division coursework.

-OR-

Thematic Cross-College Program

A thematic cross-college program, such as aging studies, integrates coursework from several departments--sociology, public health, family social science, and social work. Thematic programs are appropriate only when students' objectives are clearly focused on one topic that cannot be pursued in a two- or three-area program.
Complete 40 approved upper division credits on a theme with no more than 15 credits in any one department.
Complete 10 credits of elective upper division coursework.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Inter-College Program B.S.

CCE Individualized Degree and Inter-College Prog

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Science

Founded in 1930, the Inter-College Program (ICP) embodies the University of Minnesota's commitment to individualized undergraduate education by providing cross-college, course/credit-based degree options. Drawing upon the curricular offerings of most of the University's colleges and departments, students design either a bachelor of arts (B.A.) or a bachelor of science (B.S.) degree incorporating a significant amount of coursework from at least two different colleges within the University system.

Bachelor of science degrees are those that pertain to the physical or biological sciences, have significant quantitative or investigative tools/methods expectations, or have a pronounced applied/professional component (e.g., public health, education, business, social work).

Most students design a degree drawing from two or three departmental areas from the University. Examples include addiction studies and psychology, or Carlson School of Management, manufacturing technology, and economics.

ICP is most appropriate for self-directed students whose educational backgrounds and career and intellectual interests require both a clear personal focus and a flexible interdisciplinary approach.

Interested students should attend an information session held several times each week. Academic advisers provide a detailed introduction to the program and help students begin the planning process.

For more information on the Inter-College Program, visit www.cce.umn.edu/Inter-College-Program/.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 50 credits before admission to the program.

Students are considered for admission based on a review of their application. The review includes factors such as GPA, grade trends, performance in coursework relevant to proposed areas of study, and demonstrated ability to meet curricular and developmental expectations of individualized undergraduate education. Students must have attended a program information session and an initial degree planning appointment with an adviser.

Preferred benchmarks are 2.50 GPA and 50 semester credits completed.

Students must develop a degree plan that includes:
* Academic and career goals.
* Courses proposed for the program.
* Approval of the plan from at least two faculty or departmental advisers.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

In applicable departmental areas, successful completion of the following courses will count toward the 50 credits: CHEM 2302, CSCI 2021, DHA 2463, FW 2001, PSY 2801.

ICP Oral Communication Requirement

ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or MGMT 3033W - Business Communication [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)

ICP Program Options

Two Area Cross-College Program

This plan combines courses from two area cross-college programs, such as Carlson School of Management and mass communications, or computer science and French.
Complete 21 approved credits of upper division coursework in one area of concentration.
Complete 21 approved credits of upper division coursework in a second area of concentration.
Complete 8 supporting upper division credits in approved coursework.

-OR-

Three Area Cross-College Program

This plan combines courses from three area cross-college programs, such as applied business, communication studies, and psychology, or public health, child psychology, and family social science.
Complete 20 approved credits of upper division coursework in one area of concentration.
Complete 15 approved credits of upper division coursework in a second area of concentration.
Complete 15 approved credits of upper division coursework in a third area of concentration.

-OR-

Thematic Cross-College Program

The thematic cross-college program, such as aging studies, integrates coursework from several departments--sociology, public health, family social science, and social work. Thematic programs are appropriate only when students' objectives are clearly focused on one topic that cannot be pursued in a two- or three-area program.
Complete 50 approved upper division credits with no more than 15 credits in any one department.

-OR-

Thematic Health and Wellness Program

The thematic health and wellness program integrates coursework from several departments for students with health-related interests. Students who select this option follow the requirements for the thematic health and wellness program subplan.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Thematic Health and Wellness Program

Lower Division Health and Wellness Foundation Prerequisites

Biology
PSTL 1135 will not be approved in conjunction with a Life Science Focus.
BIOL 1009 - General Biology [BIOL] (4.0 cr)
or BIOL 1011 *{Inactive}*(4.0 cr)
or PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
or PSTL 1135 - Essentials of Human Anatomy and Physiology [BIOL] (4.0 cr)

Chemistry
Chemistry Option 1
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or **Chemistry Option 2**
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)

Nutrition
FSCN 1112 - Principles of Nutrition (3.0 cr)

Economics
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Social Science
PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)
or ANTH 1003W - Understanding Cultures [SOCS, GP, WI] (4.0 cr)
or PSTL 2283W *{Inactive}*[WI] (4.0 cr)

Upper Division Health & Wellness Core Requirements
Students must complete a minimum of 31 upper division credits within the Core by choosing one course from each category. Courses are chosen in consultation with an adviser. Must earn grade of C- or better in all courses and maintain a minimum 2.00 GPA. To be competitive for graduate and professional programs in the health sciences, GPA should be 3.00 or higher.

Anatomy
ANAT 3001 - Human Anatomy (3.0 cr)
or ANAT 3601 - Principles of Human Anatomy (3.0 cr)
or ANAT 3611 - Principles of Human Anatomy (3.0 cr)
or KIN 3027 - Human Anatomy for Kinesiology Students (3.0 cr)

Physiology
BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
or KIN 3385 - Human Physiology (4.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
or PHSL 3061 - Principles of Physiology (4.0 cr)

Terminology
PHAR 1002 - Health Sciences Terminology (2.0 cr)
or PHAR 5201 - Health Sciences Applied Terminology (2.0 cr)

Public Health
PUBH 3001 - Personal and Community Health (2.0 cr)
or PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)

Health and Fitness
KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)

Nutrition
FSCN 3612 - Life Cycle Nutrition (3.0 cr)
or FSCN 3614 - Nutrition Education and Counseling (3.0 cr)
or FSCN 3615 - Sociocultural Aspects of Food, Nutrition, and Health [GP] (3.0 cr)
or FSCN 4612 - Advanced Human Nutrition (4.0 cr)
or FSCN 4614 - Community Nutrition [SOCS, DSJ] (3.0 cr)
or PUBH 3905 - Nutrition for Public Health Promotion and Disease Prevention (2.0 cr)

Statistics
EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or NURS 3710 - Statistics for Clinical Practice and Research [MATH] (3.0 cr)
or PSY 3801 - Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

or STAT 3021 - Introduction to Probability and Statistics (3.0 cr)

Pathology

LAMP 4177 - Nature of Disease: Pathology for Allied Health Students (3.0 cr)

Management/Economics

Note: Some of these courses have a micro- or macroeconomics prerequisite.

ABUS 4705 - Leadership and Management for the Professional Practice (3.0 cr)
or ABUS 4707 - Financial Management for the Professional Practice (3.0 cr)
or APEC 3801 *{Inactive}*(3.0 cr)
or HSM 3521 - Health Care Delivery Systems (3.0 cr)
or HSM 4541 - Health Care Finance (3.0 cr)
or HSM 4561 - Health Care Administration and Management (3.0 cr)
or PUBH 3801 - Health Economics and Policy (3.0 cr)

Ethics

PHIL 3302W - Moral Problems of Contemporary Society [CIV, WI] (4.0 cr)
or PHIL 3305 - Medical Ethics (4.0 cr)

Complementary/Alternative Healing

CSPH 1001 - Principles of Holistic Health and Healing (2.0 cr)
or CSPH 5101 - Introduction to Integrative Healing Practices (3.0 cr)

Communication Upper Division

ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or HSM 4501 - Writing for the Health Professions (3.0 cr)
or WRIT 3029W - Business and Professional Writing [WI] (3.0 cr)
or WRIT 3221W - Communication Modes and Methods [WI] (4.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Upper Division Health and Wellness Emphases/Foci/Specialties

Complete at least 12 to 16 upper division credits in one departmental area such as addiction, business, communication, complementary medicine, life science, nutrition, public health, sexuality, social science, social work, or youth studies. Any relevant department, certificate, or minor can be considered. Courses are chosen in consultation with an adviser. Must earn grade of C- or better in all courses. Overall emphasis/focus/specialty GPA must be at least 2.00.

Upper Division Health and Wellness Supporting Coursework

To reach the 50 upper division credits required for the major, students may add courses within the emphasis or add related supporting courses. Courses are chosen in consultation with an adviser. Students must earn a grade of C- or better in all courses.

Twin Cities Campus

Manufacturing Operations Management B.A.Sc.

CCE Applied Professional Studies

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 51
- Degree: Bachelor of Applied Science

Manufacturing Operations Management (MM) is the study and application of methods to improve manufacturing operations and productivity to enhance a company's competitiveness in the global arena. The curriculum combines a strong foundation in manufacturing systems and processes, supply chain/quality/project, and operations management. Graduates are prepared to work as production supervisors, materials managers, manufacturing managers, production planners, project leaders, lead technicians, order process analysts, and business analysts. The MM major is offered in close collaboration with Minnesota manufacturing professionals.

Program Delivery

This program is available:

- partially online (between 50% to 80% of instruction is online)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students who have 30 transferable semester credits, preferred minimum 2.50 GPA, and a strong interest in the major may be admitted to pre-major status.

Each application for admission is individually reviewed in a holistic context.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Courses

Calculus

MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Physics

PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1107 - Introductory Physics Online I (4.0 cr)

Chemistry

CHEM 1011 *{Inactive}*(4.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Preparatory Courses

One course in arts, humanities or literature

ACCT 2050 - Introduction to Financial Reporting (4.0 cr)

English Composition

WRIT 1301 - University Writing (4.0 cr)
or WRIT 1401 - Writing and Academic Inquiry (4.0 cr)

Oral Communication

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3402 - Introduction to Interpersonal Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)

Economics

ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)

Statistics

STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or PSTL 1004 - Statistics [MATH] (4.0 cr)
or SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)

Technical Writing

One technical writing course or writing intensive science course.
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or WRIT 3001 - Professional Practices in Scientific and Technical Communication (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

General Education Courses

The B.A.Sc. General Education (GE) requirement comprises 30 semester credits from four groups: written and oral communication, humanities and fine arts, history and social sciences, and math and natural sciences. At least one course must be taken from each group. Most GE credits will be satisfied by approved B.A.Sc. prerequisites and preparatory courses. Remaining GE credits may be satisfied by any approved U of M Liberal Education course (see OneStop).

Major Courses

Students must complete a minimum of 3 credits of MM 4596.
MM 3001 - Manufacturing in a Global Economy (3.0 cr)
MM 3205 - Engineering for Manufacturing Operations (3.0 cr)
MM 4011 - Design of Manufacturing Systems and Simulations (3.0 cr)
MM 4012 - Manufacturing Processes and Technology (3.0 cr)
MM 4035 - Global Supply Chain Management (3.0 cr)
MM 4039 - Manufacturing Outsourcing Decisions (2.0 cr)
MM 4045 - Regulated Industry Compliance (3.0 cr)
MM 4102 - Manufacturing Operations (3.0 cr)
MM 4201 - Quality Engineering and Process Improvement (3.0 cr)
MM 4311 - Sustainable Lean Manufacturing (2.0 cr)
MM 4596 - Internship/Capstone (1.0 - 4.0 cr)
ABUS 4022 - Management in Organizations (3.0 cr)
ABUS 4023W - Communicating for Results [WI] (3.0 cr)
ABUS 4043 - Project Management in Practice (3.0 cr)
ABUS 4101 - Accounting and Finance for Managers (3.0 cr)

Technical Elective Courses

Other related 3xxx or 4xxx courses may be substituted with department approval.
Take 8 or more credits(s) from the following:
•ABUS 4041 - Dynamics of Leadership (3.0 cr)
•ABUS 4151 - Innovation for Leaders and Organizations (3.0 cr)
•ABUS 4515 - Strategy and Management for a Sustainable Future (3.0 cr)
•ABUS 4701 - Introduction to Marketing (3.0 cr)
•HSM 4501 - Writing for the Health Professions (3.0 cr)
•HSM 4541 - Health Care Finance (3.0 cr)
•HSM 4561 - Health Care Administration and Management (3.0 cr)
•PHAR 3700 - Fundamentals of Pharmacotherapy (3.0 cr)

- MT 3111 - Elements of Microelectronic Manufacturing (3.0 cr)
- MT 3121 - Thin Films Deposition (3.0 cr)
- MT 3131 - Introduction to Materials Characterization (4.0 cr)
- MT 3141 - Principles and Applications of Bionanotechnology (4.0 cr)
- MT 3142 - Nanoparticle Technology and Engineering Laboratory (1.0 cr)
- MM 4550 - Special Topics in Manufacturing (1.0 cr)

Twin Cities Campus

Multidisciplinary Studies B.A.

CCE Individualized Degrees

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Arts

Founded in 2006 in response to the growing demand for high quality pathways to degree completion, multidisciplinary studies (MdS) embodies the University of Minnesota's commitment to individualized undergraduate education by providing returning adult learners with access to cross-college, individualized degree options. Drawing upon the curricular offerings of most of the University's colleges and departments, students design a bachelor of arts (B.A.) or bachelor of science (B.S.) degree incorporating coursework from three of five multidisciplinary areas. Multidisciplinary studies degree areas include applied, technical, and professional; arts and humanities; communications; history and social science; and science and health science. MdS students begin their journey to degree completion in a credit-based degree planning seminar in which they discern a degree plan which reflects their professional and personal goals. MdS is intended to serve returning adult learners with a minimum of a two year gap in their pursuit of higher education and who value the challenge and rewards of individualized education. Interested students are encouraged to attend an information session held multiple times per month. Academic advisers provide a detailed introduction to the program and help students begin the planning process. A growing number of courses are available online and students have the option of completing the MdS degree completely online.

For further information on multidisciplinary studies, visit http://www.cce.umn.edu/Multidisciplinary-Studies/index.html.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 50 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Admission is based on a review of a student's application, including key factors such as GPA, grade trends, performance in course work relevant to proposed areas of study, and demonstrated ability to meet curricular and developmental expectations of individualized undergraduate education.

Students must have attended a program info. session and an advising appointment.

Preferred program match factors include:
* A two-year break in pursuit of degree (need not be continuous)
* A heavy, though not necessarily exclusive, reliance on evening and online/distance learning (ODL) course work
* Completion of 50 semester credits

During the term of admission, students must enroll in MDS 3001W: Intro to Multidisciplinary Studies, a required 3-credit course to develop a written proposal that provides a rationale for the degree plan. When the MDS 3001W instructor has determined that a proposal is complete, the instructor submits it to a faculty committee for final review and approval.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

In applicable departmental areas, successful completion of the following courses will count toward the 50 credits: CHEM 2302, CSCI 2021, DHA 2463, FW 2001, PSY 2801.

All major courses must be completed with a letter grade of C- or better.

Other Languages and/or Cultures Requirement

Students are required to complete 12 semester credits of coursework dedicated to languages and/or cultures other than the student's native language or culture.

Multidisciplinary Studies Oral Communication Requirement

ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or MGMT 3033W - Business Communication [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or Equivalent

Multidisciplinary Studies Requirements

MDS 3001W - Introduction to Multidisciplinary Studies [WI] (3.0 cr)
Must have min of 50 upper div cr for major & include min of 15 upper div cr in each area. Students choose coursework from at least two of following areas: arts & humanities; communication; or hist & soc sci; and may choose coursework from third area: applied, tech, & prof; or science & health sci.

Twin Cities Campus

Multidisciplinary Studies B.S.

CCE Individualized Degrees

College of Continuing Education

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Science

Founded in 2006 in response to the growing demand for high quality pathways to degree completion, multidisciplinary studies (MdS) embodies the University of Minnesota's commitment to individualized undergraduate education by providing returning adult learners with access to cross-college, individualized degree options. Drawing upon the curricular offerings of most of the University's colleges and departments, students design a bachelor of arts (B.A.) or bachelor of science (B.S.) degree incorporating coursework from three of five multidisciplinary areas. Multidisciplinary studies degree areas include applied, technical, and professional; arts and humanities; communications; history and social science; and science and health science. MdS students begin their journey to degree completion in a credit-based degree planning seminar in which they discern a degree plan which reflects their professional and personal goals. MdS is intended to serve returning adult learners with a minimum of a two year gap in their pursuit of higher education and who value the challenge and rewards of individualized education. Interested students are encourage to attend an information session held multiple times per month. Academic advisers provide a detailed introduction to the program and help students begin the planning process. A growing number of courses are available online and students have the option of completing the MdS degree completely online.

For further information on multidisciplinary studies, visit http://www.cce.umn.edu/Multidisciplinary-Studies/index.html.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 50 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Admission is based on a review of a student's application, including key factors such as GPA, grade trends, performance in course work relevant to proposed areas of study, and demonstrated ability to meet curricular and developmental expectations of individualized undergraduate education.

Students must have attended a program info. session and an advising appointment.

Preferred program match factors include:
* A two-year break in pursuit of degree (need not be continuous)
* A heavy, though not necessarily exclusive, reliance on evening and online/distance learning (ODL) course work
* Completion of 50 semester credits

During the term of admission, students must enroll in MDS 3001W: Intro to Multidisciplinary Studies, a required 3-credit course to develop a written proposal that provides a rationale for the degree plan. When the MDS 3001W instructor has determined that a proposal is complete, the instructor submits it to a faculty committee for final review and approval.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

In applicable departmental areas, successful completion of the following courses will count toward the 50 credits: CHEM 2302, CSCI 2021, DHA 2463, FW 2001, PSY 2801.

All major courses must be completed with a letter grade of C- or better.

Multidisciplinary Studies Oral Communication Requirement

ABUS 4023W - Communicating for Results [WI] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or MGMT 3033W - Business Communication [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
or Equivalent

Multidisciplinary Studies Quantitative or Critical Thinking Requirement

EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or EPSY 5261 - Introductory Statistical Methods (3.0 cr)
or NURS 3710 - Statistics for Clinical Practice and Research [MATH] (3.0 cr)
or POL 3085 - Quantitative Analysis in Political Science [MATH] (4.0 cr)
or PSY 3801 - Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Multidisciplinary Studies Requirements

MDS 3001W - Introduction to Multidisciplinary Studies [WI] (3.0 cr)
Must have min of 50 upper div cr for major & include min of 15 upper div cr in each area. Students choose coursework from one of the following areas: applied, tech & Prof; or science & health sci; and may choose coursework from remaining areas: arts & humanities; communication; or hist & soc sci.

Twin Cities Campus

Program for Individualized Learning B.A.

CCE Individualized Degrees

College of Continuing Education

- **Students will no longer be accepted into this program after Spring 2010. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50 to 70
- Degree: Bachelor of Arts

This program challenges students to think alternatively and holistically about learning. A set of standards, called graduation criteria, describes the basic academic structure of the bachelor¿s degree. These criteria, rather than number of credits, provide the framework for structuring the degree program and assessing its success.

Students use the graduation criteria to build their own degree programs. Students are encouraged to be creative and to use a variety of learning activities (courses and projects) to satisfy each criterion. Courses that have already been completed may be used to fulfill the graduation criteria; students can also demonstrate college-level learning achieved through work, experience, and independent study. New learning activities may explore untapped interests or build on prior learning. These activities may include independent projects, internships, work-based projects, and classroom and correspondence coursework.

A PIL degree requires achievement and excellence equal to other baccalaureate programs at the University of Minnesota. The graduation criteria require in-depth knowledge in an area of concentration (depth criteria) and broad learning in the liberal arts (breadth criteria). Regardless of the area of concentration, the B.S. emphasizes the student¿s field of study, while the B.A. emphasizes broader learning in the breadth criteria.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 30 credits before admission to the program.

To be considered for admission, students must submit an application that documents their ability to undertake a self-directed, individualized degree program. The program seeks students who: know why they are seeking a bachelor¿s degree and why PIL is a sound choice for them; can describe their proposed academic area of study; and write well in English.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

The program serves students who want to develop an area of concentration with some or all of the following attributes:

Focused on interdisciplinary or multidisciplinary studies, or a specialized study within a broader academic context

Built on the academic strengths of the University

Designed as a foundation for graduate or professional education

Not readily available as a structured undergraduate degree program

The area of concentration, traditionally called a major, should reflect balance, depth, and quality in a field of study. The student's

area of concentration must fulfill the following criteria:

Primary Area Studies: Through learning activities in their primary area of study, students acquire familiarity with the basic literature and vocabulary of their field, knowledge of its main theories and methods of investigation, ability to use the skills of the field, and an awareness of its relationship to contemporary and future society.

Major Project: As a culmination of study in their area of concentration, students complete a major project that reflects substantive understanding of their field of study.

Extended Studies in the Liberal Arts: Studies involve acquiring in-depth and advanced understanding of a focused liberal arts area; an interdisciplinary approach may also be proposed. Learning should include critical and theoretical understanding and upper division knowledge. This work goes beyond the basic requirements reflected in the LE requirements, as interpreted in the Breadth and Learning Matrix requirements in PIL.

Major Registrations

The PIL program is not credit-based, but it uses credits to ensure that registrations are recognized within the University system and that students qualify for residency and financial aid requirements. Tuition credits attached to registrations are not the same as conventional coursework credits and are not used to measure progress in the program or readiness to graduate, nor are they necessarily transferable to other programs or colleges. Additional registrations in PIL 3251 may be required.

PIL 3211 - Degree Planning (5.0 cr)
PIL 3251 - Project 1 Seminar (5.0 cr)
PIL 3281 - Major Project (5.0 cr)
PIL 3291 - Graduation Preparation (5.0 cr)
PIL 3252 - Project 2 (5.0 cr)

Most students will also need to register multiple times in one or both of the folllowing:

PIL 3200 - Continuing Studies (1.0 - 2.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Program for Individualized Learning B.S.

CCE Individualized Degrees

College of Continuing Education

- **Students will no longer be accepted into this program after Spring 2010. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50 to 70
- Degree: Bachelor of Science

This program challenges students to think alternatively and holistically about learning. A set of standards, called graduation criteria, describes the basic academic structure of the bachelor¿s degree. These criteria, rather than number of credits, provide the framework for structuring the degree program and assessing its success.

Students use the graduation criteria to build their own degree programs. Students are encouraged to be creative and to use a variety of learning activities (courses and projects) to satisfy each criterion. Courses that have already been completed may be used to fulfill the graduation criteria; students can also demonstrate college-level learning achieved through work, experience, and independent study. New learning activities may explore untapped interests or build on prior learning. These activities may include independent projects, internships, work-based projects, and classroom and correspondence coursework.

A PIL degree requires achievement and excellence equal to other baccalaureate programs at the University of Minnesota. The graduation criteria require in-depth knowledge in an area of concentration (depth criteria) and broad learning in the liberal arts (breadth criteria). Regardless of the area of concentration, the B.S. emphasizes the student¿s field of study, while the B.A. emphasizes broader learning in the breadth criteria.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 30 credits before admission to the program.

To be considered for admission, students must submit an application that documents their ability to undertake a self-directed, individualized degree program. The program seeks students who know why they are seeking a bachelor¿s degree and why PIL is a sound choice for them; can describe their proposed academic area of study; and write well in English.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

The program serves students who want to develop an area of concentration with some or all of the following attributes:

Focused on interdisciplinary or multidisciplinary studies, or a specialized study within a broader academic context.

Built on the academic strengths of the University.

Designed as a foundation for graduate or professional education.

Not readily available as a structured undergraduate degree program.
The area of concentration, traditionally called a major, should reflect balance, depth, and quality in a field of study. The student's area of concentration must fulfill the following criteria:

Primary Area Studies: Through learning activities in their primary area of study, students acquire familiarity with the basic literature and vocabulary of their field, knowledge of its main theories and methods of investigation, ability to use the skills of the field, and an awareness of its relationship to contemporary and future society.

Major Project: As a culmination of study in their area of concentration, students complete a major project that reflects substantive understanding of their field of study.

Extended Studies in the Area of Concentration: Students complete learning activities that bring a broader perspective to their area of concentration. These studies add knowledge that complements and expands on the primary area studies.

Students also complete the University's liberal education requirements as reflected in the PIL Breadth and Learning Matrix requirements.

Major Registrations

The PIL program is not credit-based, but it uses credits to ensure that registrations are recognized within the University system and that students qualify for residency and financial aid requirements. Tuition credits attached to registrations are not the same as conventional coursework credits and are not used to measure progress in the program or readiness to graduate, nor are they necessarily transferable to other programs or colleges. Additional registrations in PIL 3251 may be required.

PIL 3211 - Degree Planning (5.0 cr)
PIL 3251 - Project 1 Seminar (5.0 cr)
PIL 3281 - Major Project (5.0 cr)
PIL 3291 - Graduation Preparation (5.0 cr)

Students may be required to register one or more times for the following.

PIL 3200 - Continuing Studies (1.0 - 2.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Radiation Therapy B.A.Sc.

Bachelor of Applied Science

College of Continuing Education

- **Students will no longer be accepted into this program after Summer 2009. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 69
- This program requires summer terms.
- Degree: Bachelor of Applied Science

The bachelor of applied science (B.A.Sc.) degree with a major in radiation therapy provides leading-edge medical and technical courses and clinical experience in top-ranking radiation oncology departments. Radiation therapy graduates are prepared to meet the changing demands of new technologies and advancements in treatment techniques and meet national certification requirements. Didactic and clinical experiences will sharpen critical thinking and problem solving skills, and provide the knowledge base in management and education that is crucial to future advancement.

The major is offered in partnership with University of Minnesota Medical Center Fairview (UMMC,F) School of Radiation Therapy. Most classes are conducted at UMMC,F with clinicals at UMMC,F and other health care sites in the Twin Cities.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

The following are required for admission to the UMMC,F program:

• Proof of immunization (records reviewed by UMMC Employee Health)

• CPR certification

• Medical physical

• Proof of health insurance

• FUMC School of Radiation Therapy application

• A minimum of 20 hours of documented shadowing/observation in an approved radiation therapy department

• Interview with Admission Committee

• Vulnerable Adults Act Background Check

• A signed Essential Functions form indicating student understanding of the essential functions for successful completion of the radiation therapy program

• Computer proficiency

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Students who have earned a radiographer certificate should consult with the UMMC,F program director to determine whether to register for RTT 2001. This preparatory course may be completed after admission to the UMMC,F program.

RTT 2001 - Radiation Therapy: Radiation Exposure, Imaging, Safety, and Basic Care (1.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or COMM 3402 - Introduction to Interpersonal Communication (3.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1051 - Precalculus I [MATH] (3.0 cr)
MATH 1151 - Precalculus II [MATH] (3.0 cr)
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
ANAT 3001 - Human Anatomy (3.0 cr)
ANAT 3602 - Principles of Human Anatomy Laboratory (2.0 cr)
PHSL 1001 *{Inactive}*(3.0 cr)
PHSL 3051 - Human Physiology (4.0 cr)
PHIL 1003W - Introduction to Ethics [CIV, WI] (4.0 cr)
or PHIL 3305 - Medical Ethics (4.0 cr)
CNES 1046 - Technical Terminology for the Health Professions (3.0 cr)
or PHAR 1002 - Health Sciences Terminology (2.0 cr)
or PHAR 5201 - Health Sciences Applied Terminology (2.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Major Courses

ABUS 4041 - Dynamics of Leadership (3.0 cr)
HSM 3521 - Health Care Delivery Systems (3.0 cr)
HSM 4501 - Writing for the Health Professions (3.0 cr)
HSM 4541 - Health Care Finance (3.0 cr)
HSM 4561 - Health Care Administration and Management (3.0 cr)
HSM 4581 - Teaching in the Health Care Setting (3.0 cr)
3xxx or higher department approved equivalent on clinical research concepts/practice
RTT 3501 *{Inactive}*(2.0 cr)
RTT 3521 *{Inactive}*(2.0 cr)
RTT 3541 *{Inactive}*(1.0 cr)
RTT 3561 *{Inactive}*(2.0 cr)
RTT 3581 - Principles and Practices of Radiation Therapy I (4.0 cr)
RTT 3596 *{Inactive}*(3.0 cr)
RTT 3696 - Clinical Practicum II (3.0 cr)
RTT 4511 - Dosimetry and Treatment Planning (4.0 cr)
RTT 4581 - Principles and Practices of Radiation Therapy II (4.0 cr)
RTT 4596 - Clinical Practicum III (6.0 cr)
RTT 4601 - Project (1.0 cr)
RTT 4696 - Clinical Practicum IV (3.0 cr)
RTT 4796 - Clinical Practicum V (3.0 cr)
RTT 3120 *{Inactive}*(3.0 cr)
RTT 3121 - Radiation Physics II (3.0 cr)
RTT 3140 - Radiation Therapy: Radiobiology (2.0 cr)
PHAR 3700 - Fundamentals of Pharmacotherapy (3.0 cr)
or PHAR 3800 - Pharmacotherapy for the Health Professions (3.0 cr)

Twin Cities Campus

Respiratory Care B.A.Sc.

CCE Applied Professional Studies

College of Continuing Education

- **Students will no longer be accepted into this program after Fall 2010. Program requirements below are for current students only.**
- **To pursue a bachelor's degree in respiratory care, contact the University of Minnesota, Rochester campus [www.r.umn.edu]. Courses are offered in partnership with Mayo School of Health Sciences, Rochester, MN.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 66
- This program requires summer terms.
- Degree: Bachelor of Applied Science

The bachelor of applied science (B.A.Sc.) degree with a major in respiratory care prepares students to become respiratory care practitioners with advanced clinical and professional skills. This program, offered in partnership with Mayo School of Health Sciences in Rochester, combines professional, medical, and technical courses. Courses and clinical experiences, with options for specialized clinical study, are offered at Mayo Clinic and other facilities within the Mayo Health System. Graduates will be ready to meet national certification requirements. Advanced practitioner respiratory therapists are prepared to serve as consultants to physicians, and other medical staff.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 11 courses before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students apply for admission to both the University of Minnesota and Mayo School of Health Sciences. The following items are required for admission to Mayo School of Health Sciences:

No grade lower than C- in each preparatory course

Overall GPA of 2.20 in all preparatory courses

Proof of immunization (records reviewed by MSHS Employee Health)

CPR certification

Documentation of current health status and immunizations according to Mayo Clinic student policy

Personal medical plan coverage

Vulnerable Adults Act background check

Complete the MSHS Respiratory Care application

Interview with Admissions Committee

Computer skills

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Foundation Courses I

See program requirements for additional foundation courses to be completed before admission.
Select from: Biology, Physics II, General Chemistry II or higher, post-algebra higher level math or statistics
Humanities or fine arts course
CHEM 1011 *{Inactive}*(4.0 cr)
or CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
BIOL 2032 *{Inactive}*(4.0 cr)
or VBS 2032 - General Microbiology With Laboratory (5.0 cr)
PHSL 1001 *{Inactive}*(3.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1111 *{Inactive}*(3.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
Take one of the following pairs of courses
ANAT 3001 - Human Anatomy (3.0 cr)
ANAT 3602 - Principles of Human Anatomy Laboratory (2.0 cr)
or ANAT 3611 - Principles of Human Anatomy (3.0 cr)
ANAT 3612 - Principles of Human Anatomy Laboratory (2.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Foundation Courses II

These courses must also be completed before admission.
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
PHIL 1003W - Introduction to Ethics [CIV, WI] (4.0 cr)
or PHIL 1003V - Honors: Introduction to Ethics [CIV, WI] (4.0 cr)
or PHIL 3305 - Medical Ethics (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1101H - Honors: Introduction to Public Speaking [CIV] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
CNES 1046 - Technical Terminology for the Health Professions (3.0 cr)
or PHAR 1002 - Health Sciences Terminology (2.0 cr)
or PHAR 5201 - Health Sciences Applied Terminology (2.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1051 - Precalculus I [MATH] (3.0 cr)

Major Courses

ABUS 4041 - Dynamics of Leadership (3.0 cr)
HSM 3521 - Health Care Delivery Systems (3.0 cr)
HSM 4501 - Writing for the Health Professions (3.0 cr)
HSM 4541 - Health Care Finance (3.0 cr)
HSM 4561 - Health Care Administration and Management (3.0 cr)
HSM 4581 - Teaching in the Health Care Setting (3.0 cr)
PHAR 3800 - Pharmacotherapy for the Health Professions (3.0 cr)
RC 2011 - Foundations for Clinical Practice of Respiratory Care (2.0 cr)
RC 2021 - Patient Care Techniques (2.0 cr)
RC 3101 - Respiratory Care Modalities and Equipment I (4.0 cr)
RC 3102 - Respiratory Care Modalities and Equipment II (4.0 cr)
RC 3201 - Cardiopulmonary Patient Assessment (4.0 cr)
RC 3301 - Clinical Practice I (4.0 cr)
RC 3302 - Clinical Practice II (4.0 cr)
RC 3401 - Seminar in Respiratory Care I: Case reports and Fundamentals of Research (1.0 cr)
RC 3402 - Seminar in Respiratory Care II: Case reports and Fundamentals of Research (1.0 cr)
RC 3501 - Advanced Cardiopulmonary Respiratory Physiology and Pathophysiology (3.0 cr)
RC 3601 - Clinical Research Concepts and Practice (3.0 cr)

RC 4111 - Advanced Adult Respiratory Critical Care Techniques (3.0 cr)
RC 4301 - Seminar: Research Project and Publication (2.0 cr)
RC 4496 - Subspecialty Clinical Practicum in Advanced Respiratory Care I (3.0 cr)
RC 4596 - Subspecialty Clinical Practicum in Advanced Respiratory Care II (3.0 cr)
RC 4611 - Grand Rounds (2.0 cr)
Take exactly 2 course(s) from the following:
- RC 4201 - Subspecialization in Respiratory Care: Advanced Perinatal and Pediatric Respiratory Care (2.0 cr)
- RC 4202 - Subspecialization in Respiratory Care: Advanced Cardiopulmonary Diagnostics (2.0 cr)
- RC 4203 - Subspecialization in Respiratory Care: Cardiopulmonary Rehabilitation, Disease Prevention, Case Mgmt (1.0 cr)

Twin Cities Campus

Business and Marketing Education B.S.

Organizational Leadership, Policy and Development

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 49 to 57
- Degree: Bachelor of Science

This undergraduate program focuses on business and marketing education. Coursework includes sales management, marketing, e-marketing, leadership, project management, business communication, management and supervisory development, and customer relations management.

The program equips students with the knowledge, skills, and abilities that enable them to make meaningful contributions to organizations through employing principles and practices of business planning, project management, sales, marketing, and leadership development.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 30 credits before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

A minimum grade of C- is required for all foundation, major, and supporting program courses. The only course that can be taken pass-fail is OLPD 4496.

Foundational Coursework

These courses are intended to be taken as prerequisites to the major, however this is not strictly enforced. Students can take some of these courses as they are taking introductory courses in BME, however it is recommended that most of these courses are finished within a student's first 90 credits.

Business Communication

WRIT 3029W - Business and Professional Writing [WI] (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
or MGMT 3033W - Business Communication [WI] (3.0 cr)

Economics

APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Mathematics

PSTL 1006 - Mathematical Modeling and Prediction [MATH] (3.0 cr)
or PSTL 1004 - Statistics [MATH] (4.0 cr)
or MATH 1001 - Excursions in Mathematics [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or A higher level math course may be taken to fulfill this requirement. Consult an adviser for course options.

Psychology

PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)

Public Speaking

PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Technology and Public Ethics

CI 4311W - Technology and Ethics in Society [CIV, WI] (3.0 cr)
or CI 2311W - Introduction to Technology and Ethics in Society [CIV, WI] (3.0 cr)

Major Coursework

A total of 21 credits of major coursework is required. These 21 credits include four specific required courses (listed below), one Computer Applications course (options listed below), and 6 credits of electives within the BME major (options listed below). This typically comes to a total of 7 courses.

OLPD 3401 - Teaching Marketing Promotion (3.0 cr)
OLPD 3461 - Professional Sales Management (3.0 cr)
OLPD 3424 - Sales Training (3.0 cr)
OLPD 4426 - Strategic Customer Relationship Management (3.0 cr)

Computer Applications for Business and Industry

CI 5303 - Data Analysis and Information Design for Business and Education (3.0 cr)
or CI 5304 - Data Management for Online Integration (3.0 cr)
or CI 5362 - Foundations of Interactive Design for Web-based Learning (3.0 cr)
or CI 5363 - New Media and Interaction Design for Web-based Learning (3.0 cr)
or CI 5361 - Teaching and Learning with the Internet (3.0 cr)
or CI 5301 - Foundations of Computer Applications for Business and Education (3.0 cr)

Electives within the Major

Students must complete 6 additional credits of electives from the following list of course options.

OLPD 1302 - Personal Leadership in the University (3.0 cr)
or OLPD 2811 - Societies of the Future: Changing Work Contexts [TS] (3.0 cr)
or OLPD 3305 - Learning About Leadership Through Film and Literature (3.0 cr)
or OLPD 3318 - Introduction to Project Management (3.0 cr)
or OLPD 3620 - Introduction to Training and Development (3.0 cr)
or OLPD 3640 - Introduction to Organization Development (3.0 cr)
or OLPD 3820 - Principles of Supervisory Management (3.0 cr)
or OLPD 3828 - Diversity in the Workplace (3.0 cr)
or OLPD 4318 - Advanced Project Management (3.0 cr)
or OLPD 4401 - E-Marketing (3.0 cr)
or OLPD 4420 - Practicum in Nonprofit Organizations (2.0 cr)
or OLPD 4496 - Internship: Business and Marketing Education (1.0 - 4.0 cr)
or OLPD 4602 - Managing Work Teams (3.0 cr)
or OLPD 4627 - Management and Supervisory Training and Development (3.0 cr)
or OLPD 4870 - Introduction to Integrating Human Rights into Organizational Leadership (3.0 cr)

Supporting Program

Students must create a supporting program of at least 13 credits with a business focus. These courses must be taken from outside of the OLPD department. Students may choose either the programmatic or thematic options. Courses must be be chosen in consultation with a program adviser.

Programmatic Supporting Program

Students select at least 13 business-related credits, all of which have a common course designator.

or **Thematic Supporting Program**

Students select 13 credits that support a general business theme, regardless of course designator.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an

honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Career and Technical Education B.S.

Work and Human Resource Education

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 90
- Degree: Bachelor of Science

The major in career and technical education (CTE) is a professional development degree program offering professional preparation in the field. Students may select one of several program options.

The licensure program option prepares students for Minnesota teaching licensure for grades 9-12 in one of eight career and technical education fields:

* communication technology careers
* construction careers
* creative design careers
* early childhood careers
* hospitality service careers
* manufacturing careers
* medical careers
* transportation careers

The general career and technical education option prepares students to teach in technical and community college CTE programs.

For more information on program and licensure requirements, contact the program adviser at 612-625-7250.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 30 credits before admission to the program.

Students must have completed at least 30 semester credits or sufficient verified and approved technical work experience to be awarded 30 credits toward the degree. Applicants to the postsecondary general career and technical education option must have a minimum 2.00 GPA.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

A minimum 2.00 overall GPA with no grade lower than C- is required for major courses with the following designators: BIE, EDHD, HRD, and WHRE. A minimum grade of C- is also required for general psychology. A minimum 2.50 overall GPA is required for recommendation for Minnesota teaching licensure.

Electives to complete the 120 credits must be selected in consultation with an adviser.

Foundation Courses

MGMT 3033W - Business Communication [WI] (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

EDHD 5008 - Reading in the Content Areas for Initial Licensure Candidates (1.0 - 2.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
MATH 1001 - Excursions in Mathematics [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)

Pedagogical Studies
OLPD 1496 - Supervised Career and Technical Education Teaching (4.0 cr)
EDHD 5001 - Learning, Cognition, and Assessment (3.0 cr)
OLPD 1801 - Introduction to Career and Technical Education Teaching (2.0 cr)
OLPD 3808 - Foundations of Student and Trainee Assessment (2.0 cr)
or OLPD 5808 - Student and Trainee Assessment (2.0 cr)
OLPD 3829 - Foundations of Course Development for Business and Industry (2.0 cr)
or OLPD 5829 - Course Development for Business and Industry (2.0 cr)
OLPD 3861 - Foundations of Instructional Methods for Business and Industry (2.0 cr)
or OLPD 5861 - Instructional Methods for Business and Industry (2.0 cr)
OLPD 3801 - Foundations of Philosophy and Practice of Career and Technical Education (2.0 cr)
or OLPD 5806 - Philosophy and Practice of Career and Technical Education (2.0 cr)

Career Content Proficiency
Up to 32 credits may be completed before enrollment in the CTE program. Credits may include occupational experience, formal technical college coursework, military or industrial experience, or workshops related to the field. Credits will be evaluated for transfer to BIE 3151. The remainder of credits in this requirement must be completed after enrollment.
Complete a total of 44 credits from the following or adviser approved:
OLPD 3451 - Technical Development: Advanced (1.0 - 32.0 cr)
OLPD 5454 - Technical Development: Specialized (1.0 - 12.0 cr)
OLPD 5496 - Occupational Experience in Business and Industry (1.0 - 10.0 cr)
OLPD 5493 - Directed Study in Business and Industry (1.0 - 4.0 cr)

Additional Requirements
EDHD 5009 - Human Relations: Applied Skills for School and Society (1.0 cr)
PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)
or PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)
CI 2311W - Introduction to Technology and Ethics in Society [CIV, WI] (3.0 cr)
or CI 4311W - Technology and Ethics in Society [CIV, WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Early Childhood Education: Foundations B.S.

Institute of Child Development

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 60
- None
- Degree: Bachelor of Science

The undergraduate program in Early Childhood Education: Foundations prepares students to work with young children and their families. The curriculum includes an extensive core of liberal education courses that are central to early childhood teaching and child development.

The program prepares graduates to work in non-licensure educational settings (including daycare centers or youth community programs), to pursue advanced degrees, or to work in other settings where a strong liberal education base is useful.

In addition, the undergraduate degree program prepares students for entry into the Master of Education (M.Ed.)/initial licensure programs in Early Childhood Education, Early Childhood Special Education, or Elementary Education. M.Ed. admission requirements include successful completion of all requirements for the B.S. degree, and successful school practicum experiences. Preferred admission to the M.Ed. program requires a minimum 2.80 GPA.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

*Completion of the General Psychology requirement and at least half of the courses in content areas 1-5. Strong applicants will have Child Psychology completed or in progress.

* At least 60 hours of paid or unpaid experience working with young children. This may include mentoring, tutoring, camp counseling, babysitting, or nannying, as documented by CEHD application forms.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Basic Requirements (Content Area 1)

One year college-level spoken second language or American Sign Language (ASL) is highly recommended.
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
CPSY 2301 - Introductory Child Psychology (4.0 cr)
or CPSY 3301 - Introductory Child Psychology for Social Sciences (4.0 cr)

Language and Communication (Content Area 2)

CI 3610 - Linguistics for Teachers [SOCS] (3.0 cr)
or ENGL 3601 - Analysis of the English Language (4.0 cr)
or LING 3001 - Introduction to Linguistics [SOCS] (4.0 cr)

Foundations of Reading

CI 5413 - Foundations of Reading (3.0 cr)

Practicum: Working with Developing Readers

CI 4413 - Practicum: Working With Developing Readers (2.0 cr)

Children's Literature

CI 3401W - Diversity in Children's Literature [WI] (3.0 cr)

Literature
Any LE approved literature - 3 credits or above

Mathematics (Content Area 3)
PSTL 1006 - Mathematical Modeling and Prediction [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1051 - Precalculus I [MATH] (3.0 cr)
or MATH 1151 - Precalculus II [MATH] (3.0 cr)

Science (Content Area 4)
Students must complete a biological science course with a lab, a physical science course with a lab, and one science course with or without a lab.
Biological Science w/Lab
PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
Physical Science w/Lab
PSTL 1163 - Physics by Inquiry [PHYS] (4.0 cr)
or PHYS 3071W - Laboratory-Based Physics for Teachers [PHYS, WI] (4.0 cr)
or PHYS 1001W - Energy and the Environment [PHYS, ENV, WI] (4.0 cr)
Earth Science
AST 1001 - Exploring the Universe [PHYS, ENV] (4.0 cr)
or PSTL 1171 - Earth Systems and Environments [PHYS, ENV] (4.0 cr)
or ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
or SOIL 1125 - The Soil Resource [ENV] (4.0 cr)

Social Studies (Content Area 5)
PSTL 1231 - U.S. History: Multicultural Perspectives [HIS, DSJ] (4.0 cr)
or HIST 1301W - Authority and Rebellion: American History to 1865 [HIS, DSJ, WI] (4.0 cr)
or HIST 1302W - Global America: U.S. History Since 1865 [HIS, DSJ, WI] (4.0 cr)
or HIST 1307 - Authority and Rebellion: American History to 1865 [HIS] (3.0 cr)
or HIST 1308 - Global America: U.S. History Since 1865 [HIS] (3.0 cr)
or The above courses are preferred, but other history courses accepted.
Human Geography
GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
or GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
or GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
or GEOG 3374W - The City in Film [AH, WI] (4.0 cr)
Social Science Elective
PSTL 1204 - Ways of Knowing in the Social Sciences [SOCS, DSJ] (4.0 cr)
or ANTH 1003W - Understanding Cultures [SOCS, GP, WI] (4.0 cr)
or ANTH 1005W - Introduction to Cultural Diversity and the World System [SOCS, GP, WI] (4.0 cr)
or POL 1001 - American Democracy in a Changing World [SOCS] (4.0 cr)

General Requirements
All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements
Requirements include a minimum 2.00 GPA and no grade lower than C- for major courses. Students planning to pursue the M.Ed./initial licensure program in Early Childhood Education, Early Childhood Special Education, or Elementary Education and Minnesota state teaching licensure must have a 2.80 GPA in the undergraduate program and meet other requirements. The MTLE basic skills test must be completed before graduation and before entry into the M.Ed./initial licensure program.

Foundation Courses
CPSY 4331 - Social and Personality Development (3.0 cr)
CPSY 4343 - Cognitive Development (3.0 cr)
CPSY 4993 - Directed Experiences in Early Childhood Education (3.0 cr)
EDHD 5007 - Technology for Teaching and Learning (1.5 cr)
EDHD 5009 - Human Relations: Applied Skills for School and Society (1.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)

or PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)

Major Courses

Students must be admitted to the program before taking these courses. Many of the major courses have an experiential component.
CI 3211 - Introduction to Elementary Teaching (3.0 cr)
CI 3212 - Practicum: Elementary Teaching (2.0 cr)
CPSY 5251 - Social and Philosophical Foundations of Early Childhood Education (2.0 cr)
CPSY 5252 - Facilitating Social and Emotional Learning in Early Childhood Education (3.0 cr)
CPSY 5253 - Facilitating Cognitive and Language Learning in Early Childhood Education (3.0 cr)
CPSY 5254 - Facilitating Creative and Motor Learning in Early Childhood Education (2.0 cr)
CPSY 5281 - Student Teaching in Early Childhood Education (1.0 - 6.0 cr)
EPSY 5625 - Education of Infants, Toddlers, and Preschool Children with Disabilities: Introduction (2.0 cr)
EPSY 5681 - Education of Preschool Children With Disabilities: Methods and Materials (3.0 cr)

Recommended Electives

Recommend KIN 3327, MTHE 3101 and 3102 and EDHD 5001 and 5005 to students going on to initial licensure programs in elementary education.

Pre-Licensure or Non-Licensure Options

Non-Licensure Option

Students complete appropriate electives of interest for their program, in consultation with their adviser.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Elementary Education: Foundations B.S.

Curriculum & Instruction

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 62 to 65
- Degree: Bachelor of Science

The B.S. degree program in Elementary Education: Foundations prepares students to work with children, including those with special needs and in urban school settings.

The program does not lead directly to teaching licensure, but prepares students to enter the master of education (M.Ed.)/initial licensure program in elementary education, which leads to state of Minnesota teaching licensure. It also prepares graduates to work in non-licensure educational settings (daycare centers or youth community programs) or other settings where a strong liberal education base is useful. The curriculum includes an extensive core of liberal education coursework that is central to elementary school teaching.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 9 courses before admission to the program.

Freshman and transfer students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Admission is based on the following criteria:
* Minimum 2.50 overall GPA; higher GPA is recommended.
* Completion of required pre-admission coursework, including courses in progress at the time of application.
* At least 70 hours of paid or unpaid experience working with children, including at least 35 hours in a K-6 public classroom setting. This may include mentoring, tutoring, and camp counseling, but not babysitting or nannying.
* Experience with diverse populations.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Basic Requirements

CI 1001 - Introduction to the Elementary School (3.0 cr)
Any literature course that fulfills the University liberal education literature requirement
Students must fulfill the University writing requirement
Introductory Psychology
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)

Mathematics

PSTL 1006 - Mathematical Modeling and Prediction [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)

Science

BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
PSTL 1171 - Earth Systems and Environments [PHYS, ENV] (4.0 cr)
or AST 1001 - Exploring the Universe [PHYS, ENV] (4.0 cr)
or ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)

Social Studies
Any history course that meets the liberal education requirement for historical perspectives. American history is recommended.
Additional social studies course
PSTL 1204 - Ways of Knowing in the Social Sciences [SOCS, DSJ] (4.0 cr)
or ANTH 1003W - Understanding Cultures [SOCS, GP, WI] (4.0 cr)
or ANTH 1005W - Introduction to Cultural Diversity and the World System [SOCS, GP, WI] (4.0 cr)
or POL 1001 - American Democracy in a Changing World [SOCS] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Introductory Block
CI 3212 - Practicum: Elementary Teaching (2.0 cr)
with CI 5111 - Introduction to Elementary School Teaching (3.0 cr)
or CI 3211 - Introduction to Elementary Teaching (3.0 cr)
with EDHD 5001 - Learning, Cognition, and Assessment (3.0 cr)
or EPSY 3119 - Learning, Cognition, and Assessment (3.0 cr)

Foundation Courses
EDHD 5007 - Technology for Teaching and Learning (1.5 cr)
EDHD 5009 - Human Relations: Applied Skills for School and Society (1.0 cr)
EDHD 5005 - School and Society (2.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)
or PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)
Child Development
EDHD 5003 - Developmental and Individual Differences in Educational Contexts (2.0 cr)
or CPSY 2301 - Introductory Child Psychology (4.0 cr)

Special Education Block
This block of courses should be taken during the third semester in the major, one year after the introductory block.
EPSY 5613 - Foundations of Special Education I (3.0 cr)
with EPSY 5616 - Behavior Analysis and Classroom Management (3.0 cr)
with CI 3283 - Practicum: Special Education K-6 (2.0 cr)

Mathematics
Mathematics for Elementary Teachers I
MTHE 3101 - Mathematics and Pedagogy for Elementary Teachers I (3.0 cr)
or MATH 3113 - Topics in Elementary Mathematics I (4.0 cr)
Mathematics for Elementary Teachers II
MTHE 3102 - Mathematics and Pedagogy for Elementary Teachers II (3.0 cr)
or MATH 3118 - Topics in Elementary Mathematics II (4.0 cr)

Science
Physical Science with Lab
PSTL 1163 - Physics by Inquiry [PHYS] (4.0 cr)
or PHYS 3071W - Laboratory-Based Physics for Teachers [PHYS, WI] (4.0 cr)

Social Studies
Human Geography
GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
or GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
or GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
or GEOG 3374W - The City in Film [AH, WI] (4.0 cr)

Literacy
CI 3401W - Diversity in Children's Literature [WI] (3.0 cr)
Linguistics
LING 3001 - Introduction to Linguistics [SOCS] (4.0 cr)

Twin Cities Campus

Family Social Science B.S.

Family Social Science

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 55 to 58
- This program requires summer terms.
- Degree: Bachelor of Science

Family social science is a multidisciplinary major for those who are interested in helping people, counseling, and understanding human relationships. This major prepares graduates for careers in working with individuals, families, or systems in human services. The major is enhanced by a required internship related to the student's specific program and career goals. Qualified graduates may continue their education through graduate study in family social science, child and human development, social work, or allied health disciplines.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Preparatory Courses

Economics

APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Statistics

PSTL 1004 - Statistics [MATH] (4.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Additional Course

FSOS 1101 - Intimate Relationships [SOCS] (4.0 cr)
or FSOS 1201 - Human Development in Families: Lifespan [SOCS, DSJ] (4.0 cr)
or PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)
or PSTL 1246 - Multicultural Contexts: Engaging Citizenship and Democracy [SOCS, CIV] (3.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSTL 1289 *{Inactive}*[DSJ] (3.0 cr)
or SW 1001 - Introduction to the World of Social Work: A Global Perspective (3.0 cr)
or choose a course from one of the following areas: anthropology, child psychology, human development, political science, psychology, social work, or sociology

Communication Courses

PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
ENGL 3027W - The Essay [WI] (4.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

or WRIT 3029W - Business and Professional Writing [WI] (3.0 cr)

Major Courses
FSOS 2101 - Preparation for Working With Families (2.0 cr)
FSOS 2103 - Family Policy (3.0 cr)
FSOS 2105 - Methods in Family Research (3.0 cr)
FSOS 3101 - Personal and Family Finances (3.0 cr)
FSOS 3102 - Family Systems and Diversity [SOCS, DSJ] (3.0 cr)
FSOS 3104 - Global and Diverse Families [SOCS, GP] (3.0 cr)

Professional Core Courses
Take 18 or more credits(s) from the following:
•FSOS 3426 - Alcohol and Drugs: Families and Culture (3.0 cr)
•FSOS 3429 - Counseling Skills Practicum I (3.0 cr)
•FSOS 4101 - Sexuality and Gender in Families and Close Relationships (3.0 cr)
•FSOS 4104W - Family Psychology [WI] (3.0 cr)
•FSOS 4106 - Family Resource Management (3.0 cr)
•FSOS 4150 - Special Topics in Family Social Science (1.0 - 4.0 cr)
•FSOS 4152 - Gay, Lesbian, and Bisexual People in Families (3.0 cr)
•FSOS 4153 - Family Financial Counseling (3.0 cr)
•FSOS 4154W - Families and Aging [WI] (3.0 cr)
•FSOS 4155 - Parent-Child Relationships (3.0 cr)
•FSOS 4156 - Legal-Economic Controversies in Families (3.0 cr)
•FSOS 5150 - Special Topics in Family Social Science (1.0 - 4.0 cr)
•FSOS 5426 - Alcohol and Drugs: Families and Culture (3.0 cr)

Advanced/Applied Skill Course
Students must take FSOS 4294 or FSOS 4296 for 4 credits.
Take 4 or more credits(s) from the following:
•FSOS 4294 - Research Internship (1.0 - 4.0 cr)
•FSOS 4296 - Field Study: Working With Families (1.0 - 12.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Human Resource Development B.S.

Organizational Leadership, Policy and Development

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 40
- Degree: Bachelor of Science

The undergraduate program in human resource development equips learners with the knowledge, skills, and abilities that enable them to make meaningful contributions to the advancement of organizational systems in a variety of sectors, based on the principles, methods, and tools of the fields of workplace learning, training, organization development, leadership development, and career development.

The B.S. prepares students for entry-level positions in training, career development, organization development, and workplace learning. Typical job titles include training coordinator, technical trainer, instructional designer, organization development assistant, training facilitator, or learning and development specialist. Undergraduate students also develop a foundation for graduate study, and such degrees are typically required for advancement in the field.

Students who complete the B.S. degree simultaneously earn a certificate in human resource development.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 60 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Admission requirements include 60 credits, completed or in progress.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

A minimum grade of C- is required for all foundation, major, and supporting program courses. The only course that can be taken pass/fail is OLPD 4696.

Foundation Courses

These courses are intended to be taken as prerequisites to the major, although this is not strictly enforced. Student can take some of these courses as they are taking introductory courses in HRD, however most of these courses should be completed within the first 90 credits.

Technology and Public Ethics

CI 4311W - Technology and Ethics in Society [CIV, WI] (3.0 cr)
or CI 2311W - Introduction to Technology and Ethics in Society [CIV, WI] (3.0 cr)

Computer Applications

CI 5303 - Data Analysis and Information Design for Business and Education (3.0 cr)

or CI 5304 - Data Management for Online Integration (3.0 cr)
or CI 5362 - Foundations of Interactive Design for Web-based Learning (3.0 cr)
or CI 5363 - New Media and Interaction Design for Web-based Learning (3.0 cr)
or CI 5361 - Teaching and Learning with the Internet (3.0 cr)
or CI 5301 - Foundations of Computer Applications for Business and Education (3.0 cr)

Public Speaking
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Economics
ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Psychology
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)

Mathemathics
MATH 1001 - Excursions in Mathematics [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or one higher level math course

Business Writing
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Major Courses
Students must complete a minimum of 23 credits in the major. The internship course (OLPD 4696) must be taken for a minimum of 4 credits. Students interested in doing more than 4 credits must consult with an HRD adviser as soon as possible.
OLPD 3601 - Introduction to Human Resource Development (3.0 cr)
OLPD 3202 - Introduction to Strategies for Teaching Adults (3.0 cr)
OLPD 3620 - Introduction to Training and Development (3.0 cr)
OLPD 3640 - Introduction to Organization Development (3.0 cr)
OLPD 3696 - Profession and Practice of Human Resource Development (2.0 cr)
OLPD 4696 - Internship: Human Resource Development (1.0 - 10.0 cr)

HRD Electives
Students must complete a minimum of 5 additional credits of electives within the major.
Take 5 or more credits(s) from the following:
•OLPD 1302 - Personal Leadership in the University (3.0 cr)
•OLPD 2811 - Societies of the Future: Changing Work Contexts [TS] (3.0 cr)
•OLPD 3201 - Adult Education Overview (1.0 cr)
•OLPD 3305 - Learning About Leadership Through Film and Literature (3.0 cr)
•OLPD 3318 - Introduction to Project Management (3.0 cr)
•OLPD 3424 - Sales Training (3.0 cr)
•OLPD 3820 - Principles of Supervisory Management (3.0 cr)
•OLPD 3828 - Diversity in the Workplace (3.0 cr)
•OLPD 4318 - Advanced Project Management (3.0 cr)
•OLPD 4426 - Strategic Customer Relationship Management (3.0 cr)
•OLPD 4602 - Managing Work Teams (3.0 cr)
•OLPD 4608 - Introduction to International Human Resource Development (3.0 cr)
•OLPD 4627 - Management and Supervisory Training and Development (3.0 cr)
•OLPD 4870 - Introduction to Integrating Human Rights into Organizational Leadership (3.0 cr)

Supporting Program
Students are required to take 13 credits in a secondary area of interest. This can either support the HRD major, or can allow students to pursue a very different area of interest. The 13 credits must be taken in either a programmatic or thematic fashion (see below). Students must consult with an HRD adviser on best options.

Programmatic Supporting Program
Students select 13 credits, all of which have a common course designator. Frequently selected programs include human resources/industrial relations (HRIR), adult education (OLPD), communications (COMM), management (MGMT), and industrial and organizational psychology (PSY). Choices are not limited to these designators.

-OR-

Thematic Supporting Program
Students select 13 credits that support a common theme, regardless of course designator. Sample themes include online training, international development education, and conflict management. Courses must be selected in consultation with and HRD advisor.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Kinesiology B.S.

Kinesiology, School of

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120 to 125
- Required credits within the major: 70 to 85
- Degree: Bachelor of Science

The bachelor of science (B.S.) program in kinesiology is a comprehensive, science-based academic degree program centered around the physical, biological, and social sciences related to the study of physical activity and human movement. Major coursework includes content focusing on human anatomy and physiology, exercise physiology, movement science, sociology, and sport and exercise psychology.

This curriculum provides exceptional academic preparation for students interested in graduate and professional programs in allied health, biomechanics, chiropractic medicine, dentistry, ergonomics, exercise physiology, exercise rehabilitation, human factors and performance, movement science, motor performance, nursing, occupational therapy, physical education licensure, physical therapy, preventative and rehabilitation medicine, psychology of sport and exercise, sport management, and sport sociology.

Examples of career choices for graduates with a B.S. in kinesiology include, but are not limited to: athletic performance training, coaching, exercise testing and prescription in clinical and health settings, personal training in health clubs and corporate settings, pharmaceutical sales, physical therapist, physical education teacher, occupational therapist, public health management, fitness/sport/medical device sales, wellness and fitness specialist, and youth sports director.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 60 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

To be eligible to apply to the major, students must have:
* At least 60 credits completed or in progress
* Completed one course from four of the five of the following categories:
  Biology Course with Lab
  Chemistry Course with Lab
  Physics Course with Lab
  Introduction to Kinesiology
  Human Anatomy

Students transferring into the University of Minnesota must have completed one course from each of the following categories:
  Biology Course with Lab
  Chemistry Course with Lab
  Physics Course with Lab

Once admitted to the major, transfer students will be expected to complete one course from each of the following categories in their first semester:
  Introduction to Kinesiology
  Human Anatomy

Students pursuing the M.Ed./initial licensure program in physical education must have a 2.80 GPA in the undergraduate program and meet other requirements.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Biology Course with Lab
BIOL 1009 - General Biology [BIOL] (4.0 cr)
or BIOL 1009H - Honors: General Biology [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1001H - Introductory Biology I: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
or PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
or PSTL 1135 - Essentials of Human Anatomy and Physiology [BIOL] (4.0 cr)
or FSCN 2021 - Introductory Microbiology (4.0 cr)

Chemistry Course with Lab
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)

Physics Course with Lab
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)

Introduction to Kinesiology
KIN 1871 - Survey of Kinesiology, Recreation, and Sport (3.0 cr)

Human Anatomy
KIN 3027 - Human Anatomy for Kinesiology Students (3.0 cr)
or ANAT 3001 - Human Anatomy (3.0 cr)
or ANAT 3601 - Principles of Human Anatomy (3.0 cr)
or ANAT 3611 - Principles of Human Anatomy (3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students must select one of the following sub-plans and fulfill the requirements set for that specific sub-plan.
* Clinical movement science
* Exercise and health science
* Pre-physical education teaching licensure
* Sport science

General Requirements
All students are required to:
* Complete general University and college requirements, including writing and liberal education courses
* Complete one course from each of the following categories

Psychology
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSY 1001H - Honors Introduction to Psychology [SOCS] (4.0 cr)

Speech Performance
PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

or COMM 1101H - Honors: Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)

Statistics/Math

EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or PSTL 1004 - Statistics [MATH] (4.0 cr)
or PSTL 1006 - Mathematical Modeling and Prediction [MATH] (3.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
or SCO 2550H - Honors: Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)

Core Requirements

KIN 3112 - Introduction to Biomechanics (4.0 cr)
KIN 3126W - Sport and Exercise Psychology [WI] (3.0 cr)
KIN 3131W - History and Philosophy of Sport [WI] (3.0 cr)
KIN 3132 - Introduction to Motor Development Across the Lifespan (3.0 cr)
KIN 3135 - Introduction to Motor Learning and Control (3.0 cr)
KIN 3151 - Measurement and Evaluation in Kinesiology (3.0 cr)
KIN 4385 - Exercise Physiology (4.0 cr)
KIN 4981 - Understanding Kinesiology Research (3.0 cr)
SMGT 3501 - Sport in a Diverse Society [SOCS, DSJ] (3.0 cr)
or SMGT 3501H - Sport in a Diverse Society: Honors [SOCS, DSJ] (3.0 cr)
KIN 3385 - Human Physiology (4.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)

Physical Activity Course Requirement

Take 5 credits of physical activity, including at least one course from each of the three following categories:

Aquatics/Dance/Posture

Take 1 or more course(s) from the following:
•PE 1004 - Diving: Springboard (1.0 cr)
•PE 1007 - Beginning Swimming (1.0 cr)
•PE 1016 - Posture and Individual Exercise (1.0 cr)
•PE 1107 - Intermediate Swimming (1.0 cr)
•PE 1205 - Scuba and Skin Diving (1.0 cr)
•PE 1207 - Advanced Swimming (1.0 cr)
•PE 1306 - Lifeguard Training (1.0 cr)
•PE 1411 *{Inactive}*(2.0 cr)
•DNCE 1001 - Modern Dance Technique 1 (1.0 cr)
•DNCE 1002 - Modern Dance Technique 2 (1.0 cr)
•DNCE 1010 - Modern Dance Technique 3 (1.0 - 2.0 cr)
•DNCE 1020 - Modern Dance Technique 4 (1.0 - 2.0 cr)
•DNCE 1030 - Men's Modern Dance Technique (1.0 cr)
•DNCE 1040 - Modern Dance Partnering Technique (1.0 cr)
•DNCE 1101 - Ballet Technique 1 (1.0 cr)
•DNCE 1102 - Ballet Technique 2 (1.0 cr)
•DNCE 1110 - Ballet Technique 3 (2.0 cr)
•DNCE 1120 - Ballet Technique 4 (2.0 cr)
•DNCE 1201 - Jazz Technique 1 (1.0 cr)
•DNCE 1202 - Jazz Technique 2 (1.0 cr)
•DNCE 1210 - Jazz Technique 3 (1.0 cr)
•DNCE 1220 - Jazz Technique 4 (1.0 cr)
•DNCE 1301 - Tap Technique 1 (1.0 cr)
•DNCE 1302 - Tap Technique 2 (1.0 cr)
•DNCE 1313 - African Based Movement (1.0 cr)
•DNCE 1315 - Flamenco (1.0 cr)
•DNCE 1321 *{Inactive}*(1.0 cr)
•DNCE 1323 - Swing Dance (1.0 cr)
•DNCE 1327 - Argentine Tango (1.0 cr)
•DNCE 1331 - Yoga (1.0 cr)
•DNCE 1335 - T'ai Chi Ch'uan (1.0 cr)
•DNCE 1338 *{Inactive}*(1.0 cr)
•DNCE 1343 - Hip Hop Movement (1.0 cr)
•DNCE 1345 - Alexander Technique for Movement Artists (1.0 cr)

•DNCE 1347 - Pilates Conditioning (1.0 cr)
•DNCE 1349 - Contact Improvisation (1.0 cr)
•DNCE 1351 - African Diasporic Movement 1 (1.0 cr)
•DNCE 1352 - African Diasporic Movement 2 (1.0 cr)
•DNCE 1353 - African Diasporic Movement 3 (1.0 cr)
•DNCE 1354 - African Diasporic Movement 4 (1.0 cr)
•DNCE 3010 - Modern Dance Technique 5 (2.0 cr)
•DNCE 3020 - Modern Dance Technique 6 (2.0 cr)
•DNCE 3110 - Ballet Technique 5 (2.0 cr)
•DNCE 3120 - Ballet Technique 6 (2.0 cr)
•DNCE 3210 - Jazz Technique 5 (1.0 cr)
•DNCE 3220 - Jazz Technique 6 (1.0 cr)
•DNCE 3301 - Tap Technique 3 (1.0 cr)
•DNCE 3302 - Tap Technique 4 (1.0 cr)
•DNCE 3304 *{Inactive}*(1.0 cr)
•DNCE 3311 - Contemporary Indian Dance 1 (1.0 cr)
•DNCE 3312 - Contemporary Indian Dance 2 (1.0 cr)
•DNCE 3337 - Body Mind Centering (2.0 cr)
•DNCE 3351 - African Diasporic Movement 5 (1.0 cr)
•DNCE 3352 - African Diasporic Movement 6 (1.0 cr)

Individual Sports/Team Sport

Take 1 or more course(s) from the following:
•PE 1029 - Handball (1.0 cr)
•PE 1031 - Sabre Fencing (1.0 cr)
•PE 1032 - Badminton (1.0 cr)
•PE 1033 - Foil Fencing (1.0 cr)
•PE 1034 - Judo (1.0 cr)
•PE 1035 - Karate (1.0 cr)
•PE 1036 - Racquetball (1.0 cr)
•PE 1037 - Squash Racquets (1.0 cr)
•PE 1038 - Beginning Tennis (1.0 cr)
•PE 1042 *{Inactive}*(1.0 cr)
•PE 1043 - Beginning Horse Riding (1.0 cr)
•PE 1044 - Self-Defense (1.0 cr)
•PE 1045 - Rock Climbing (1.0 cr)
•PE 1046 - Tae Kwon Do (1.0 cr)
•PE 1047 *{Inactive}*(2.0 cr)
•PE 1048 - Bowling (1.0 cr)
•PE 1053 - Ice Skating (1.0 cr)
•PE 1055 - Golf (1.0 cr)
•PE 1056 - Nordic (Cross-Country) Skiing (1.0 cr)
•PE 1057 - Beginning Skiing (1.0 cr)
•PE 1058 - Snowboarding (1.0 cr)
•PE 1059 - Track and Field (1.0 cr)
•PE 1065 - Beginning Tumbling and Gymnastics (1.0 cr)
•PE 1067 - Basketball (1.0 cr)
•PE 1071 - Beginning Cricket (1.0 cr)
•PE 1072 - Soccer (1.0 cr)
•PE 1073 - Softball (1.0 cr)
•PE 1074 - Beginning Volleyball (1.0 cr)
•PE 1075 - Ice Hockey (1.0 cr)
•PE 1076 - Flag Football (1.0 cr)
•PE 1077 - Lacrosse (1.0 cr)
•PE 1078 - Ultimate Disc (1.0 cr)
•PE 1079 - Rugby (Non-contact) (1.0 cr)
•PE 1082 - Broomball (1.0 cr)
•PE 1129 - Intermediate Handball (1.0 cr)
•PE 1133 - Intermediate Foil Fencing (1.0 cr)
•PE 1135 - Intermediate Karate (1.0 cr)
•PE 1136 *{Inactive}*(1.0 cr)
•PE 1137 - Intermediate Squash (1.0 cr)
•PE 1138 *{Inactive}*(1.0 cr)
•PE 1146 - Intermediate Tae Kwan Do (1.0 cr)
•PE 1154 - Figure Skating (1.0 cr)
•PE 1157 - Intermediate Skiing (1.0 cr)

•PE 1174 - Intermediate Volleyball (1.0 cr)

Conditioning/Weight Training

Take 1 or more course(s) from the following:
•PE 1012 - Beginning Running (1.0 cr)
•PE 1014 - Conditioning (1.0 cr)
•PE 1015 - Weight Training (1.0 cr)
•PE 1262 - Marathon Training (3.0 cr)
•PE 1415 *{Inactive}*(1.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Pre-Physical Education Teaching Licensure

Students in the pre-physical education teaching licensure sub-plan have the opportunity to prepare themselves to become successful candidates for admission into the M.Ed. in Teaching/Initial Teacher Licensure Program in K-12 Physical Education at the University of Minnesota. Areas of emphasis include a strong scientific background in kinesiology; knowledge and skills in a prescribed, yet broad, range of physical activity; and principles, theory, and research related to education and, in particular, physical education. This sub-plan might also be applicable to those entering fields involving children and youth engaged in physical activity.

Students are required to take a minimum of 15 credits of coursework selected from their sub-plan course list.

Students planning to apply to the Physical Education Teaching Licensure M.Ed. program are responsible for fulfilling all pre-admission requirements accordingly and are encouraged to meet with the program coordinator immediately.

Pre-Physical Education Teaching Licensure (KIN) Courses

Take 15 or more credits(s) from the following:
•KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
•KIN 3114 - Prevention and Care of Athletic Injuries (3.0 cr)
•KIN 3136 - Mental Skills Training for Sport (3.0 cr)
•KIN 3143 - Organization and Administration of Sport (3.0 cr)
•KIN 4001H - Honors Seminar in Kinesiology (3.0 cr)
•KIN 4520 - Current Topics in Kinesiology (1.0 - 4.0 cr)
•KIN 4641 - Training and Conditioning for Sport (3.0 cr)
•KIN 4741 - Strength and Power Development and Program Design (3.0 cr)
•KIN 5103 - Developmental/Adapted Physical Education (3.0 cr)
•KIN 5104 - Physical Activities for Persons with Disabilities (3.0 cr)
•KIN 5123 - Motivational Interventions in Physical Activity (3.0 cr)
•KIN 5136 - Psychology of Coaching (3.0 cr)
•KIN 5142 - Applied Sport Nutrition for Athletic Performance (3.0 cr)
•KIN 5371 - Sport and Society (3.0 cr)
•KIN 5375 - Competitive Sport for Children and Youth (3.0 cr)
•KIN 5385 - Exercise for Disease Prevention and Management (3.0 cr)
•KIN 5720 - Special Topics in Kinesiology (1.0 - 8.0 cr)
•KIN 5725 - Organization and Management of Physical Education and Sport (3.0 cr)
•Take 0 - 6 credits(s) from the following:
 •KIN 3168 - Soccer Coaching Theory and Skill Development (2.0 cr)
 •KIN 3169 - Volleyball Coaching Theory and Skill Development (2.0 cr)
 •KIN 3171 - Baseball Coaching Theory and Skill Development (2.0 cr)
 •KIN 3172 - Basketball Coaching Theory and Skill Development (2.0 cr)
 •KIN 3173 - Football Coaching Theory and Skill Development (2.0 cr)
 •KIN 3178 - Tennis Coaching Theory and Skill Development (2.0 cr)
 •KIN 3179 - Track and Field Coaching Theory and Skill Development (2.0 cr)
 •KIN 3181 *{Inactive}*(2.0 cr)
 •KIN 3184 *{Inactive}*(2.0 cr)
•Take 0 - 6 credits(s) from the following:
 •KIN 3696 - Supervised Practical Experience (1.0 - 10.0 cr)
 •KIN 3993 - Directed Study in Kinesiology (1.0 - 10.0 cr)
 •KIN 3993H - Directed Study in Kinesiology: Honors (1.0 - 10.0 cr)
 •KIN 4697 - Student Coaching and Seminar (3.0 cr)
 •KIN 5995 - Research Problems in Applied Kinesiology (1.0 - 6.0 cr)

•KIN 5696 - Practicum in Kinesiology (1.0 - 6.0 cr)

Clinical Movement Science

This clinical movement science sub-plan provides a broad life-science based program that prepares students for careers focusing on injury prevention, on rehabilitation of cognitive and motor function, or in research where movement science is applied to human performance. Students have the opportunity to prepare to become successful candidates for admission to professional programs such as physical and occupational therapy, nursing, physician assistant, and rehabilitation and preventive medicine. In addition, well-motivated students will be prepared for graduate work in the broad area of movement science that may lead to careers in academia, research, and the medical device or human factors industry.

Students are required to take a minimum of 15 credits of coursework selected from their sub-plan course list. Courses that fulfill other kinesiology major requirements cannot fulfill this requirement.

Clinical Movement Science (KIN) Courses

Take 15 or more credits(s) from the following:
- •KIN 4133 - Perceptual-Motor Control and Learning (3.0 cr)
- •KIN 4134 - The Aging Motor System (3.0 cr)
- •KIN 4136 - Embodied Cognition (3.0 cr)
- •KIN 4441 - Movement Neuroscience (3.0 cr)
- •KIN 4520 - Current Topics in Kinesiology (1.0 - 4.0 cr)
- •KIN 5235 - Advanced Biomechanics II: Kinetics (3.0 cr)
- •KIN 5941 - Clinical Movement Neuroscience (3.0 cr)
- •Take 0 - 6 credits(s) from the following:
  - •KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
  - •KIN 3505 - Intro to Human-Centered Design (3.0 cr)
  - •KIN 4001H - Honors Seminar in Kinesiology (3.0 cr)
  - •KIN 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
  - •KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
  - •KIN 5720 - Special Topics in Kinesiology (1.0 - 8.0 cr)
  - •KIN 5723 - Psychology of Sport Injury (3.0 cr)
- •Take 0 - 6 credits(s) from the following:
  - •KIN 3696 - Supervised Practical Experience (1.0 - 10.0 cr)
  - •KIN 3993 - Directed Study in Kinesiology (1.0 - 10.0 cr)
  - •KIN 3993H - Directed Study in Kinesiology: Honors (1.0 - 10.0 cr)
  - •KIN 4697 - Student Coaching and Seminar (3.0 cr)
  - •KIN 5995 - Research Problems in Applied Kinesiology (1.0 - 6.0 cr)
  - •KIN 5696 - Practicum in Kinesiology (1.0 - 6.0 cr)

Exercise and Health Sciences

The exercise and health sciences sub-plan is designed to provide a broad sciences-based academic background to prepare students for careers in the medical, health, and fitness industries. These careers include roles in health clubs, community and corporate wellness centers, as personal trainers, and in clinical rehabilitation centers as exercise technicians. Students from this sub-plan can also prepare themselves for admission to professional programs in the health sciences including nursing, physician assistant, certified athletic trainer, medical degree, and chiropractic programs.

Students are required to take a minimum of 15 credits of coursework from their sub-plan course list. Courses that fulfill other kinesiology major requirements cannot fill this requirement.

Exercise and Health Sciences (KIN) Courses

Take 15 or more credits(s) from the following:
- •KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
- •KIN 3136 - Mental Skills Training for Sport (3.0 cr)
- •KIN 4001H - Honors Seminar in Kinesiology (3.0 cr)
- •KIN 4214 - Health Promotion (3.0 cr)
- •KIN 4520 - Current Topics in Kinesiology (1.0 - 4.0 cr)
- •KIN 4641 - Training and Conditioning for Sport (3.0 cr)
- •KIN 4741 - Strength and Power Development and Program Design (3.0 cr)
- •KIN 4841 - Athletic Performance and Environmental Considerations (3.0 cr)
- •KIN 4941 - Applied Sport Science (3.0 cr)
- •KIN 5122 - Applied Exercise Physiology (3.0 cr)
- •KIN 5123 - Motivational Interventions in Physical Activity (3.0 cr)
- •KIN 5141 - Nutrition for Health and Physical Performance (3.0 cr)
- •KIN 5142 - Applied Sport Nutrition for Athletic Performance (3.0 cr)
- •KIN 5385 - Exercise for Disease Prevention and Management (3.0 cr)
- •KIN 5435 - Advanced Theory and Techniques of Exercise Science (3.0 cr)

- KIN 5485 - Advanced Electrocardiogram Interpretation (3.0 cr)
- KIN 5641 - Scientific Theory and Application of Training and Conditioning in Sport (3.0 cr)
- KIN 5720 - Special Topics in Kinesiology (1.0 - 8.0 cr)
- KIN 5723 - Psychology of Sport Injury (3.0 cr)
- Take 0 - 6 credits(s) from the following:
  - KIN 3696 - Supervised Practical Experience (1.0 - 10.0 cr)
  - KIN 3993 - Directed Study in Kinesiology (1.0 - 10.0 cr)
  - KIN 3993H - Directed Study in Kinesiology: Honors (1.0 - 10.0 cr)
  - KIN 4697 - Student Coaching and Seminar (3.0 cr)
  - KIN 5995 - Research Problems in Applied Kinesiology (1.0 - 6.0 cr)
  - KIN 5696 - Practicum in Kinesiology (1.0 - 6.0 cr)

Sport Science

The sport science sub-plan encompasses behavioral, social, and physical sciences such as sport and exercise psychology, sport sociology, training and conditioning, motor development and learning, sport and recreation management, and pedagogy that contribute to developing and promoting healthy and effective sports participation among athletes of all ages and abilities. Kinesiology professionals in related careers provide training and services for these athletes as athletics coaches, strength and conditioning coaches, athletics directors, youth sport recreation directors, recreational and club sport coordinators, sport educators, mental skills consultants, and sports equipment managers.

Students are required to take a minimum of 15 credits of coursework selected from their sub-plan course list. Courses that fulfill other kinesiology major requirements cannot fill this requirement.

Sport Science (KIN) Courses

Take 15 or more credits(s) from the following:
- KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
- KIN 3114 - Prevention and Care of Athletic Injuries (3.0 cr)
- KIN 3136 - Mental Skills Training for Sport (3.0 cr)
- KIN 3143 - Organization and Administration of Sport (3.0 cr)
- KIN 4001H - Honors Seminar in Kinesiology (3.0 cr)
- KIN 4214 - Health Promotion (3.0 cr)
- KIN 4520 - Current Topics in Kinesiology (1.0 - 4.0 cr)
- KIN 4641 - Training and Conditioning for Sport (3.0 cr)
- KIN 4741 - Strength and Power Development and Program Design (3.0 cr)
- KIN 5122 - Applied Exercise Physiology (3.0 cr)
- KIN 5123 - Motivational Interventions in Physical Activity (3.0 cr)
- KIN 5126 - Sport Psychology (3.0 cr)
- KIN 5136 - Psychology of Coaching (3.0 cr)
- KIN 5141 - Nutrition for Health and Physical Performance (3.0 cr)
- KIN 5142 - Applied Sport Nutrition for Athletic Performance (3.0 cr)
- KIN 5371 - Sport and Society (3.0 cr)
- KIN 5375 - Competitive Sport for Children and Youth (3.0 cr)
- KIN 5461 - Foundations of Sport Management (3.0 cr)
- KIN 5511 - Sport and Gender (3.0 cr)
- KIN 5641 - Scientific Theory and Application of Training and Conditioning in Sport (3.0 cr)
- KIN 5720 - Special Topics in Kinesiology (1.0 - 8.0 cr)
- KIN 5723 - Psychology of Sport Injury (3.0 cr)
- KIN 5725 - Organization and Management of Physical Education and Sport (3.0 cr)
- KIN 5801 - Legal Aspects of Sport and Recreation (4.0 cr)
- Take 0 - 4 credits(s) from the following:
  - KIN 3168 - Soccer Coaching Theory and Skill Development (2.0 cr)
  - KIN 3169 - Volleyball Coaching Theory and Skill Development (2.0 cr)
  - KIN 3171 - Baseball Coaching Theory and Skill Development (2.0 cr)
  - KIN 3172 - Basketball Coaching Theory and Skill Development (2.0 cr)
  - KIN 3173 - Football Coaching Theory and Skill Development (2.0 cr)
  - KIN 3174 *{Inactive}*(2.0 cr)
  - KIN 3175 *{Inactive}*(2.0 cr)
  - KIN 3176 *{Inactive}*(2.0 cr)
  - KIN 3177 *{Inactive}*(2.0 cr)
  - KIN 3178 - Tennis Coaching Theory and Skill Development (2.0 cr)
  - KIN 3179 - Track and Field Coaching Theory and Skill Development (2.0 cr)
  - KIN 3181 *{Inactive}*(2.0 cr)
  - KIN 3184 *{Inactive}*(2.0 cr)
- Take 0 - 6 credits(s) from the following:
  - KIN 3696 - Supervised Practical Experience (1.0 - 10.0 cr)

- KIN 3993 - Directed Study in Kinesiology (1.0 - 10.0 cr)
- KIN 3993H - Directed Study in Kinesiology: Honors (1.0 - 10.0 cr)
- KIN 4697 - Student Coaching and Seminar (3.0 cr)
- KIN 5995 - Research Problems in Applied Kinesiology (1.0 - 6.0 cr)
- KIN 5696 - Practicum in Kinesiology (1.0 - 6.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Recreation, Park and Leisure Studies B.S.

Kinesiology, School of

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 71
- Degree: Bachelor of Science

The undergraduate program in recreation, park, and leisure studies prepares students to assume leadership, supervisory, or beginning administrative responsibilities and design and deliver leisure services to diverse populations in a variety of settings. In addition to the general education requirements, core professional courses give students a firm foundation in the recreation field. Students further define their career interests by selecting focus electives that allow them to combine recreation with other disciplines such as management, social work, youth studies, sports management, outdoor education and tourism.

The program features a 9-credit practicum experience, which allows students to integrate theory and practical applications in the field. Students select an agency that will provide an experiential learning opportunity in their specific area of interest.

Graduates may find employment in such locations as public park and recreation programs at the municipal, state, or national level, commercial recreation, outdoor education and natural resources, outdoor recreation and tourism.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 30 credits before admission to the program.

Students must complete at least 30 credits of the University's liberal education requirements, including the freshman writing requirement; have earned a minimum overall GPA of 2.00, with preference given to applicants with a higher average; and have relevant education or career-related experience, paid or volunteer. Appropriate related and major courses may be applied toward these requirements.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Requirements include a minimum 2.00 GPA.

Foundation Courses

For additional college requirements, consult with an SPS program adviser.

PE 1xxx

Take 3 or more course(s) from the following:

•PE 1xxx

Public Speaking

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1101H - Honors: Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)

Sociology

SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or SOC 1011V - Honors: Introduction to Sociology [SOCS, WI] (4.0 cr)

or PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)

Psychology

PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSY 1001H - Honors Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)

Personal and Community Health

PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)
or take the following course pair
PUBH 3001 - Personal and Community Health (2.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)

Required Core Courses

REC 1501 - Orientation to Leisure and Recreation (3.0 cr)
REC 3281 - Research and Evaluation in Recreation, Park, and Leisure Studies (4.0 cr)
REC 3541W - Recreation Programming [WI] (3.0 cr)
REC 3551 - Administration and Finance of Leisure Services (4.0 cr)
REC 3601W - Leisure and Human Development [WI] (3.0 cr)
REC 3796 - Senior Internship in Recreation, Park, and Leisure Studies (9.0 cr)
REC 5271 - Community Leisure Services for Persons with Disabilities (3.0 cr)
REC 5801 - Legal Aspects of Sport and Recreation (4.0 cr)

Electives (20 credits)

Students must take 20 credits of elective coursework in consultation with their faculty adviser and are encouraged to select a focus in either Outdoor Recreation or Recreation Administration. The following are some possible electives in each focus area. This list is not exhaustive and students may consult with their faculty adviser for approval on courses not listed.

Focus Electives

Take exactly 1 sub-requirements(s) from the following:

•**Outdoor Recreation**

•Take 1 or more course(s) from the following:
•REC 2151 - Outdoor and Camp Leadership (3.0 cr)
•REC 5161 - Recreation Land Policy (3.0 cr)
•REC 5301 - Wilderness and Adventure Education (4.0 cr)
•REC 5311 - Programming Outdoor and Environmental Education (3.0 cr)
•YOST 2101 - Urban Youth and Youth Issues [DSJ] (4.0 cr)
•YOST 2241 - Experiential Learning (4.0 cr)
•YOST 3101 - Youthwork: Orientations and Approaches (4.0 cr)
•YOST 3032 - Adolescent and Youth Development for Youthworkers (4.0 cr)
•YOST 3234 - Youth Agencies, Organizations, and Youth Service Systems (3.0 cr)
•CI 5537 - Principles of Environmental Education (3.0 cr)
•CI 5747 - Global and Environmental Education: Content and Practice (3.0 cr)

•**Recreation Administration**

•Take 1 or more course(s) from the following:
•REC 5111 - Sports Facilities (3.0 cr)
•REC 5115 - Event Management in Sport (3.0 cr)
•REC 5191 - Adventure Recreation, Tourism, and Eco-Tourism (3.0 cr)
•REC 5461 - Foundations of Sport Management (3.0 cr)
•REC 5511 - Sport and Gender (3.0 cr)
•REC 5601 - Sport Management Ethics and Policy (3.0 cr)
•KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
•KIN 3143 - Organization and Administration of Sport (3.0 cr)
•KIN 4214 - Health Promotion (3.0 cr)
•KIN 5126 - Sport Psychology (3.0 cr)
•KIN 5375 - Competitive Sport for Children and Youth (3.0 cr)
•KIN 5725 - Organization and Management of Physical Education and Sport (3.0 cr)
•SMGT 3421 - Business of Sport (3.0 cr)
•SMGT 3631 - Sport Marketing (3.0 cr)
•SMGT 3632 - Sport Sales and Fund-raising (3.0 cr)
•CI 5301 - Foundations of Computer Applications for Business and Education (3.0 cr)
•CI 5303 - Data Analysis and Information Design for Business and Education (3.0 cr)
•CI 5304 - Data Management for Online Integration (3.0 cr)
•CI 5351 - Technology Tools for Educators (3.0 cr)
•OLPD 3601 - Introduction to Human Resource Development (3.0 cr)
•OLPD 3620 - Introduction to Training and Development (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Sport Management B.S.

Kinesiology, School of

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 71
- This program requires summer terms.
- Degree: Bachelor of Science

The sport management major focuses on contemporary sport as a product of social, psychological, and economic phenomena. Because of its prominent role in our culture, economy, and societal behavior, sport is a popular subject for academic inquiry. Graduates may find employment in sport marketing and management, coaching, sport administration, and sport or other fitness-related occupations. The program also prepares students for graduate study in sport management.

Coursework in sport management addresses such topics as ethics and sport, psychology of sport performance, sport as a sociocultural phenomenon, sport management, sport marketing and promotion, and event management.

Features of the program include an 8-credit experiential course, a senior seminar, and a set of focused electives.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 60 credits before admission to the program.

Admission preference is given to students who have completed liberal education requirements and have an overall GPA of 2.00 before the admission deadline. Because of a large number of applicants, a 2.75 GPA is recommended.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Admission Requirements

KIN 1871 - Survey of Kinesiology, Recreation, and Sport (3.0 cr)
SMGT 1701 - Introduction to Sport Management (2.0 cr)
PSTL 1571 - Computer Literacy and Problem Solving (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Foundation Courses

Take a minimum of 24 credits from this group, including 6 credits of education and human development electives (excluding courses with KIN, REC, or SMGT designators). With the guidance of a Student Services adviser, choose from courses listed at http://www.education.umn.edu/catalogs/course-desc/.
PE 1xxx

Public Speaking

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)

Sociology

PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)
or SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)

Psychology
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
Public Health
PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)
or take the following course pair
PUBH 3001 - Personal and Community Health (2.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)

Required Core Courses
Students must complete 8 credits of SMGT 3996.
SMGT 3111 - Sports Facility and Event Management (3.0 cr)
SMGT 3143 - Organization and Management of Sport (3.0 cr)
SMGT 3421 - Business of Sport (3.0 cr)
SMGT 3501 - Sport in a Diverse Society [SOCS, DSJ] (3.0 cr)
SMGT 3601 - Ethics and Values in Sport (2.0 cr)
SMGT 3631 - Sport Marketing (3.0 cr)
SMGT 3861 - Legal Aspects of Sport (3.0 cr)
SMGT 3881W - Senior Seminar in Sport Management [WI] (3.0 cr)
SMGT 3996 - Practicum: The Sport Experience (2.0 - 8.0 cr)

Focus Electives (20 credits)
Students must take an additional 20 credits of elective coursework in consultation with the sport management adviser, are strongly encouraged to take SMGT 3632, and are encouraged to select a related minor area of focus or study. Students are required to complete the focus elective proposal form and meet with their sport management adviser prior to registering for and completing classes. These courses must be upper division (3000 level or higher) unless approved by your sport management adviser.
Take 20 or more credits(s) from the following:
•SMGT 3632 - Sport Sales and Fund-raising (3.0 cr)
•KIN 3001 - Lifetime Health and Wellness [SOCS] (3.0 cr)
•KIN 3126W - Sport and Exercise Psychology [WI] (3.0 cr)
•KIN 3131W - History and Philosophy of Sport [WI] (3.0 cr)
•KIN 5725 - Organization and Management of Physical Education and Sport (3.0 cr)
•KIN 5804 - National Collegiate Athletic Association (NCAA) Compliance (2.0 cr)
•REC 3541W - Recreation Programming [WI] (3.0 cr)
•REC 3601W - Leisure and Human Development [WI] (3.0 cr)
•REC 5271 - Community Leisure Services for Persons with Disabilities (3.0 cr)
•ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
•OLPD 3401 - Teaching Marketing Promotion (3.0 cr)
•OLPD 3424 - Sales Training (3.0 cr)
•OLPD 4401 - E-Marketing (3.0 cr)
•OLPD 4426 - Strategic Customer Relationship Management (3.0 cr)
•BLAW 3058 - The Law of Contracts and Agency (4.0 cr)
•CMGT 3001 - Introduction to Construction (3.0 cr)
•COMM 3201 - Introduction to Electronic Media Production (3.0 - 4.0 cr)
•ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
•ECON 1102 - Principles of Macroeconomics (4.0 cr)
•OLPD 1301W - Personal Leadership in the University [WI] (3.0 cr)
•OLPD 1302 - Personal Leadership in the University (3.0 cr)
•OLPD 3302 - Leadership, You, and Your Community (3.0 cr)
•OLPD 3305 - Learning About Leadership Through Film and Literature (3.0 cr)
•OLPD 3601 - Introduction to Human Resource Development (3.0 cr)
•OLPD 3640 - Introduction to Organization Development (3.0 cr)
•MGMT 3010 - Introduction to Entrepreneurship (4.0 cr)
•YOST 3001 - Introduction to History & Philosophy of Youthwork (4.0 cr)
•YOST 3032 - Adolescent and Youth Development for Youthworkers (4.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Technology Education B.S.

Work and Human Resource Education

College of Education and Human Development

- **Students will no longer be accepted into this program after Spring 2010. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 71
- This program requires summer terms.
- Degree: Bachelor of Science

This program prepares students to meet Minnesota state licensure requirements for teaching technology education to grades 5-12.

The curriculum surveys the broad range of technology use and application in the areas of manufacturing, construction, transportation, communication, energy, and power. Coursework includes liberal education, technology education, and professional/clinical experiences and student teaching.

Graduate study in this field is available. A career and technical education certificate is also available.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 60 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

A minimum 2.00 GPA with no grade lower than C- is required for major courses with the following designators: BIE, EDHD, HRD, and WHRE. A minimum grade of C- is also required for general psychology. Students must have a minimum 2.50 GPA to meet state licensure requirements.

Preparatory Course

PSTL 1525W - First-Year Inquiry: Multidisciplinary Ways of Knowing [WI] (4.0 cr)

Major Courses

BA 3033W is a required course for students who are also completing a business minor through the University's Carlson School of Management.

MGMT 3033W - Business Communication [WI] (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
MATH 1001 - Excursions in Mathematics [MATH] (3.0 cr)
or MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
CI 2311W - Introduction to Technology and Ethics in Society [CIV, WI] (3.0 cr)
or CI 4311W - Technology and Ethics in Society [CIV, WI] (3.0 cr)

Technical Skills
A limited number of technical college credits can be applied to BIE 3151 or BIE 5151.
OLPD 3411 *{Inactive}*(3.0 cr)
OLPD 3413 *{Inactive}*(3.0 cr)
OLPD 3414 *{Inactive}*(3.0 cr)
OLPD 3422 *{Inactive}*(3.0 cr)
OLPD 3423 *{Inactive}*(3.0 cr)
OLPD 5401 *{Inactive}*(3.0 cr)
OLPD 5444 *{Inactive}*(3.0 cr)
OLPD 3412 *{Inactive}*(3.0 cr)
or AFEE 3112 - Building Construction Technology (3.0 cr)
OLPD 3821 *{Inactive}*(3.0 cr)
Take at least 9 credits from the following:
Take 1 or more course(s) totaling 9 or more credits(s) from the following:
•OLPD 3451 - Technical Development: Advanced (1.0 - 32.0 cr)
•OLPD 5454 - Technical Development: Specialized (1.0 - 12.0 cr)
•OLPD 5496 - Occupational Experience in Business and Industry (1.0 - 10.0 cr)

Technological Knowledge
An adviser-approved substitution may be taken in place of BIE 5011.
CI 5301 - Foundations of Computer Applications for Business and Education (3.0 cr)
OLPD 5465 *{Inactive}*(3.0 cr)
OLPD 5861 - Instructional Methods for Business and Industry (2.0 cr)

Professional/Clinical Studies
EDHD 5001 - Learning, Cognition, and Assessment (3.0 cr)
EDHD 5003 - Developmental and Individual Differences in Educational Contexts (2.0 cr)
EDHD 5005 - School and Society (2.0 cr)
EDHD 5007 - Technology for Teaching and Learning (1.5 cr)
EDHD 5009 - Human Relations: Applied Skills for School and Society (1.0 cr)
OLPD 5896 - Teaching Internship: Introduction (1.0 cr)
OLPD 5897 - Teaching Internship: School and Classroom Settings (2.0 cr)
OLPD 5898 - Teaching Internship (3.0 - 8.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)
or PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)
EDHD 5008 - Reading in the Content Areas for Initial Licensure Candidates (1.0 - 2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Youth Studies B.S.

School of Social Work

College of Education and Human Development

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 61 to 64
- N/A
- Degree: Bachelor of Science

Youth studies is an interdisciplinary program that prepares students for practice and scholarship. Faculty conduct community-based action research and evaluation on youth issues, programs, policies, and services. The major emphasizes civic engagement for young people marginalized in their communities.

Coursework focuses on everyday lives of young people, working with urban, marginalized, and other youth populations, and international/global perspectives and youth civic engagement.

Youth studies courses move students into the community through regular site visits, program observations, service-learning placements, international exchanges, and internships. Students are supported by culturally competent academic advising and one-on-one student-elder partnerships with faculty, staff, or community leaders. Qualified graduates may pursue graduate study in social work, education, or public policy.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 4 courses before admission to the program.

Freshman and transfer students are usually admitted to pre-major status before admission to this major

All undergraduates must fulfill University Liberal Education requirements. The introductory courses listed below fulfill Liberal Education core and/or theme requirements and support foundational skill development and preparation for advanced coursework in CEHD majors. Courses that meet LE requirements include: PsTL 1004, PsTL 1006, PsTL 1112, PsTL 1131, PsTL 1135, PsTL 1163, PsTL 1171, PsTL 1204, PsTL 1211, PsTL 1231, PsTL 1246, PsTL 1251, PsTL 1281, PsTL 1312, PsTL 1365W, PsTL 1366, PsTL 1367W, PsTL 1368, and PsTL 1461.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Youth Studies: Preparatory Requirements

YOST requirement

YOST 1001 - Seeing Youth, Thinking Youth: Media, Popular Media, and Scholarship (3.0 cr)
or YOST 2002W *{Inactive}*[WI] (4.0 cr)

Sociology requirement

PSTL 1211 - Multicultural Perspectives in Sociology [SOCS, DSJ] (4.0 cr)
or SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)

Statistics requirement

PSTL 1004 - Statistics [MATH] (4.0 cr)
or STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)

Social science requirement

CPSY 2xxx
or POL 1xxx
or FSOS 1xxx
or GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
or psychology
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or anthropology

ANTH 1003W - Understanding Cultures [SOCS, GP, WI] (4.0 cr)
or ANTH 1005W - Introduction to Cultural Diversity and the World System [SOCS, GP, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Foundation Courses

YOST 2101 - Urban Youth and Youth Issues [DSJ] (4.0 cr)
YOST 2241 - Experiential Learning (4.0 cr)
YOST 3001 - Introduction to History & Philosophy of Youthwork (4.0 cr)
YOST 3032 - Adolescent and Youth Development for Youthworkers (4.0 cr)
YOST 3101 - Youthwork: Orientations and Approaches (4.0 cr)
YOST 4325 - Improving Everyday Youthwork: Practical Program Evaluation (3.0 cr)
or FSOS 2105 - Methods in Family Research (3.0 cr)
or SOC 3801 - Sociological Research Methods (4.0 cr)

Professional Core

Take 9 credits from the following Professional Core:
YOST 3031 - International Youthwork (3.0 cr)
or YOST 3234 - Youth Agencies, Organizations, and Youth Service Systems (3.0 cr)
or YOST 3240 - Special Topics in Youth Studies (2.0 - 8.0 cr)
or YOST 4301 - Communicating With Adolescents About Sexuality (3.0 cr)
or YOST 4314 - Theater Activities in Youthwork and Education (2.0 cr)
or YOST 4315 - Youthwork in Schools (4.0 cr)
or YOST 4316 - Media and Youth: Learning, Teaching, and Doing (2.0 cr)
or YOST 4317 - Youthwork in Contested Spaces (3.0 cr)
or YOST 4319 - Understanding Youth Subcultures (3.0 cr)
or YOST 4321 - Work with Youth: Individual (2.0 cr)
or YOST 4322 - Work with Youth: Families (2.0 cr)
or YOST 4323 - Work with Youth: Groups (2.0 cr)
or YOST 4401W - Young People's Spirituality and Youthwork: An Introduction [WI] (4.0 cr)
or YOST 4402 - Youth Policy: Enhancing Healthy Development in Everyday Life (4.0 cr)
or YOST 4403 - Indirect Youthwork: Working on Behalf of Young People (4.0 cr)

Advanced/Applied Skills

8 credits minimum, to be completed during final year of study.
YOST 4196 - Youthwork Internship (4.0 cr)
YOST 4411 - Youth Research and Youth Program Evaluation (4.0 cr)

College Communication Courses

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
ENGL 3027W - The Essay [WI] (4.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Agricultural and Food Business Management B.S.

Applied Economics

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 64
- Degree: Bachelor of Science

The agricultural and food business management major is offered jointly by CFANS and the Carlson School of Management. The curriculum emphasizes concepts and methods from economics and business management and their use in identifying, analyzing, and solving management problems related to food, agriculture, natural resources, and economic development. The program provides a balance between applied economics and business management studies, with a limited amount of applied science. Students may elect a variety of courses in their junior and senior years to accommodate special interests and career goals.

Graduates of the curriculum are prepared for a wide range of employment opportunities in the food system and other agribusinesses. Examples of employment areas include finance and banking, management, input, commodity and food marketing, sales, administration, public and industrial relations, production management, economic and statistical analysis, managerial accounting, management information systems, and transportation.

Students completing the program may also pursue graduate studies in preparation for research, teaching, or continuing education positions in academic institutions, government agencies, or industry.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 60 credits before admission to the program.

Freshman and transfer students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.80 already admitted to the degree-granting college
- 2.80 transferring from another University of Minnesota college
- 2.80 transferring from outside the University

Students are admitted to the major after satisfactory completion of a pre-agricultural and food business management program. Admission standards are developed in conjunction with the Carlson School of Management. Application deadlines are April 15 for fall semester and October 15 for spring semester.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Admission Requirements

Students must complete the following management "tool" courses taken A-F before entering the program and earn a GPA of at least 2.50 in these courses.

ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)
SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Students may not major in both agricultural and food business management and applied economics.

Communication

WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
MGMT 3033W - Business Communication [WI] (3.0 cr)
or COMM 3441 - Introduction to Organizational Communication (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)

Professional Courses

APEC 1001 - Orientation to Applied Economics (1.0 cr)
or CFAN 3201 - Career and Internship Preparation (1.0 cr)
APEC 3001 - Applied Microeconomics: Consumers, Producers, and Markets (4.0 cr)
APEC 3002 - Applied Microeconomics: Managerial Economics (4.0 cr)
APEC 3006 - Applied Macroeconomics: Government and the Economy (3.0 cr)
APEC 3007 - Applied Macroeconomics: Policy, Trade, and Development [GP] (3.0 cr)
APEC 3501 - Agribusiness Finance (3.0 cr)
APEC 4821W - Business Economics and Strategy [WI] (3.0 cr)
ACCT 3001 - Introduction to Management Accounting (3.0 cr)
MGMT 3001 - Fundamentals of Management (3.0 cr)
MKTG 3001 - Principles of Marketing (3.0 cr)
SCO 3001 - Introduction to Operations Management (3.0 cr)

Ethics and Responsible Management

Student must take one course (3 credits) that fosters one or more of the following objectives: responsible judgment about the management of natural resources and the environment; responsible judgment regarding ethical and policy issues related to agriculture; application of global perspectives to agricultural, food, and environmental issues and decisions; application of a historical perspective to the role of science and technology.
AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
or AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
or ANSC 1011 - Animals and Society [CIV] (3.0 cr)
or BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
or BBE 5212 - Safety and Environmental Health Issues in Plant and Animal Production and Processing (3.0 cr)
or BIOL 1050 - Our Global Environment: Science and Solutions [ENV] (3.0 cr)
or CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
or EE 1701W - Energy, Environment, and Society [WI] (3.0 cr)
or EEB 3001 - Ecology and Society [ENV] (3.0 cr)
or ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
or ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
or ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
or FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
or ESCI 3005 - Earth Resources (3.0 cr)
or GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
or HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)
or HSCI 3332 - Science and American Culture [HIS, DSJ] (3.0 cr)
or PBIO 1212 - Plant Biotechnology and Society [TS] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Financial Management
Students must take a minimum of two courses (6-8 credits) in APEC or ECON and a minimum of two courses (6-8 credits) from CSOM.

Financial Management
Take 4 or more course(s) from the following:
- Take 2 or more course(s) from the following:
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 4481 - Futures and Options Markets (3.0 cr)
  - APEC 4501 - Financial Modeling (3.0 cr)
  - APEC 5341 - Public Finance (3.0 cr)
  - APEC 5751 - Global Trade and Policy (3.0 cr)
  - ECON 3701 - Money and Banking (3.0 cr)
  - ECON 4432W - International Finance [WI] (3.0 cr)
  - ECON 4751 - Financial Economics (3.0 cr)
- Take 2 or more course(s) from the following:
  - ACCT 5101 - Intermediate Accounting I (4.0 cr)
  - ACCT 5125 - Auditing Principles and Procedures (4.0 cr)
  - ACCT 5160 - Financial Statement Analysis (2.0 cr)
  - BLAW 3058 - The Law of Contracts and Agency (4.0 cr)
  - FINA 4121 - Financial Markets and Interest Rates (2.0 cr)
  - FINA 4122 - Banking Institutions (2.0 cr)
  - FINA 4221 - Principles of Corporate Finance (2.0 cr)
  - FINA 4321 - Portfolio Management and Performance Evaluation (2.0 cr)
  - INS 4100 - Corporate Risk Management (2.0 cr)

Individualized
Students preparing for career opportunities that emphasize skills, such as accounting, communications, law, or information systems may use this alternative to design an area of emphasis. A program of study under the emphasis must be approved by the adviser and the major coordinator. At least 6 of the 12 credits must be completed after receiving approval.

Individualized Area
Select 12 credits from individual electives
12 credits from individual electives

Marketing, Sales, & Food Industry Management
Students must take a minimum of two courses (6-8 cr) in APEC or ECON and a minimum of two courses (6-8 cr) from CSOM or RM 2215, 3242 only.

Marketing, Sales and Food Industry Management
Take 4 or more course(s) from the following:
- Take 2 or more course(s) from the following:
  - APEC 3411 - Commodity Marketing (3.0 cr)
  - APEC 3451 - Food and Agricultural Sales (3.0 cr)
  - APEC 3821 - Retail Center Management (3.0 cr)
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 4103 - World Food Problems [GP] (3.0 cr)
  - APEC 4451W - Food Marketing Economics [CIV, WI] (3.0 cr)

- APEC 4461 - Horticultural Marketing (3.0 cr)
- APEC 4481 - Futures and Options Markets (3.0 cr)
- APEC 4501 - Financial Modeling (3.0 cr)
- APEC 5711 - U.S. Agricultural and Environmental Policy (3.0 cr)
- APEC 5751 - Global Trade and Policy (3.0 cr)
- APEC 5811 - Cooperative Organization (3.0 cr)

- Take 2 or more course(s) from the following:
  - RM 2215 - Multichannel Retailing (3.0 cr)
  - RM 3242 - Retail Buying (3.0 cr)
  - MKTG 3010 - Marketing Research (4.0 cr)
  - MKTG 3040 - Buyer Behavior (4.0 cr)
  - MKTG 4030 - Sales Management (4.0 cr)
  - MKTG 4050 - Integrated Marketing Communications (4.0 cr)
  - MKTG 4060 - Marketing Channels (4.0 cr)
  - MKTG 4080W - Marketing Strategy [WI] (4.0 cr)
  - SCO 3056 - Supply Chain Planning and Control (4.0 cr)

Business Management

Students must take a minimum of two courses (6-8 credits) in APEC or ECON and a minimum of two courses (6-8 credits) from CSOM.

Business Management

Take 4 or more course(s) from the following:

- Take 2 or more course(s) from the following:
  - APEC 3451 - Food and Agricultural Sales (3.0 cr)
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 4481 - Futures and Options Markets (3.0 cr)
  - APEC 4501 - Financial Modeling (3.0 cr)
  - APEC 5711 - U.S. Agricultural and Environmental Policy (3.0 cr)
  - APEC 5811 - Cooperative Organization (3.0 cr)
- Take 2 or more course(s) from the following:
  - ACCT 3201 - Intermediate Management Accounting (2.0 cr)
  - BLAW 3058 - The Law of Contracts and Agency (4.0 cr)
  - FINA 4221 - Principles of Corporate Finance (2.0 cr)
  - HRIR 3021 - Human Resource Management and Industrial Relations (3.0 cr)
  - HRIR 3032 - Training and Development (2.0 cr)
  - HRIR 3042 - The Individual and Organizational Performance (2.0 cr)
  - MGMT 3010 - Introduction to Entrepreneurship (4.0 cr)
  - MGMT 4002 - Managerial Psychology (4.0 cr)
  - MGMT 4008 - Entrepreneurial Management (4.0 cr)

Twin Cities Campus

Agricultural Education B.S.

College of Food, Agri & Natural Resource Sciences

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120 to 122
- Required credits within the major: 71 to 98
- This program requires summer terms.
- Degree: Bachelor of Science

The undergraduate agricultural education program is a collaborative partnership between the College of Food, Agricultural and Natural Resource Sciences (CFANS) and the College of Education and Human Development (CEHD). Graduates of the program are prepared for formal and nonformal teaching positions, as well as organizational and business career opportunities that emphasize leadership and communication skills.

Two specializations are available. The agricultural education teacher licensure specialization prepares students to meet Minnesota Board of Teaching requirements. Students who complete the agricultural leadership and communications specialization seek career paths in organizations and businesses within food, agriculture, and natural resources.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Physical and Biological Sciences

CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
AGRO 1101 - Biology of Plant Food Systems [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)

Mathematics

MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)

Major Courses

AFEE 1001 - Introduction to Agricultural Education and Extension (1.0 cr)
AFEE 1002 - Principles of Career Planning for Agricultural Professionals (1.0 cr)
AFEE 2051 - Current Technical Competencies (3.0 cr)
AFEE 2096 - Professional Practicum in Agricultural Education: Early Experience (1.0 - 3.0 cr)

AFEE 5111W - Agricultural Education: Methods of Teaching [WI] (4.0 cr)
CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Agricultural Leadership and Communication

This specialization prepares students for careers in organizations and businesses within food, agriculture, and natural resources. Employment opportunities range from training and development, commodity, agribusiness, sales and marketing, extension, nonformal teaching and learning, public relations, university-related, nonprofit, and communications. It provides students with the opportunity to take a broad spectrum of courses within food, agriculture, and natural resources. Professional courses are focused around leadership, communication, and organizational principles. Students develop leadership and communication skills that employers have determined are critical to a successful career.

Internships provide students with relevant experience and networking opportunities. Students use electives to declare a minor or certificate to supplement coursework in the agricultural education major; some require limited additional coursework.

Animal Science
ANSC 1101 - Introductory Animal Science (4.0 cr)
Applied Economics and Agribusiness
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
APEC 1251 - Principles of Accounting (3.0 cr)
or APEC 3411 - Commodity Marketing (3.0 cr)
or APEC 3xxx
APEC 3451 - Food and Agricultural Sales (3.0 cr)
or OLPD 3461 - Professional Sales Management (3.0 cr)
Natural Resources
Take 3 or more credits(s) from the following:
•EEB 1xxx
•ESPM 1xxx
•FR 1xxx
•FW 1xxx
Plant Science
CFAN 3001 - Pests and Crop Protection (3.0 cr)
or HORT 1001 - Plant Propagation [BIOL] (4.0 cr)
or AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
or ENT 4015 - Ornamentals and Turf Entomolgy (3.0 cr)
or HORT 1003 - Master Gardener Core Course: Horticulture for Home & Garden (3.0 cr)
Soil Science
SOIL 1125 - The Soil Resource [ENV] (4.0 cr)
or SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
Agricultural Education
AFEE 3096 - Experiential Learning: Production and Business (1.0 - 8.0 cr)
AFEE 5361 - World Development Problems (3.0 cr)
Leadership
AFEE 2221 - People Skills for Leadership (3.0 cr)
AFEE 4221 - Rural Leadership Development (3.0 cr)
Communication
JOUR 1001 - Introduction to Mass Communication [SOCS, TS] (3.0 cr)
AFEE 3221 - Communication for Agriculture, Food, and the Environment (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
Human Resource Development
OLPD 3601 - Introduction to Human Resource Development (3.0 cr)
Leadership, Communication, HRD Elective
Leadership minor course 2-4xxx
or COMM 2-4xxx
or JOUR 2-4xxx
or OLPD 3620 - Introduction to Training and Development (3.0 cr)
or OLPD 3640 - Introduction to Organization Development (3.0 cr)
or OLPD 3805 - Introduction to Strategic Planning Through Human Resources (3.0 cr)
or OLPD 4602 - Managing Work Teams (3.0 cr)

or OLPD 4608 - Introduction to International Human Resource Development (3.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Agricultural Education Teacher Licensure

This specialization prepares students to meet Minnesota Board of Teaching requirements in agricultural education for grades 5-12 and for teacher coordinator of work-based learning. It includes a broad study of courses in food, agriculture, and natural resources. Professional courses are focused on standards of effective teaching and content pedagogy. Students gain relevant knowledge through integrated field experience. In addition to teaching in the formal classroom, graduates are prepared for a wide range of employment opportunities in training, nonformal teaching and learning, sales, management and public relations in the food, agriculture, and natural resource industry.

Students may graduate from this program with a minimum 2.00 overall GPA, but a minimum 2.50 overall GPA is required for recommendation for Minnesota teaching licensure.

Social Sciences
PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
or PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
Communication
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
Animal Science
ANSC 1101 - Introductory Animal Science (4.0 cr)
Take 1 or more course(s) from the following:
•ANSC 1403 - Companion Animal Nutrition and Care (3.0 cr)
•ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
•ANSC 2401 - Animal Nutrition (3.0 cr)
•ANSC 3221 - Animal Breeding (4.0 cr)
Applied Economics and Agribusiness
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
Take 1 or more course(s) from the following:
•APEC 1251 - Principles of Accounting (3.0 cr)
•APEC 3411 - Commodity Marketing (3.0 cr)
•APEC 3811 - Principles of Farm Management (3.0 cr)
•APEC 3821 - Retail Center Management (3.0 cr)
•APEC 3451 - Food and Agricultural Sales (3.0 cr)
or OLPD 3461 - Professional Sales Management (3.0 cr)
Food Science
ANSC 1511 - Food Animal Products for Consumers (3.0 cr)
or FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
Natural Resources
Take 3 or more credits(s) from the following:
•EEB 3001 - Ecology and Society [ENV] (3.0 cr)
•ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
•FR 1xxx
•FW 1002 *{Inactive}*(3.0 cr)
•FW 2001 - Introduction to Fisheries, Wildlife, and Conservation Biology (3.0 cr)
Plant Science
Take 3 or more credits(s) from the following:
•AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
•HORT 1001 - Plant Propagation [BIOL] (4.0 cr)
•HORT 1003 - Master Gardener Core Course: Horticulture for Home & Garden (3.0 cr)
•HORT 1013 - Floral Design (3.0 cr)
CFAN 3001 - Pests and Crop Protection (3.0 cr)

or ENT 4015 - Ornamentals and Turf Entomolgy (3.0 cr)

Soil Science

SOIL 1125 - The Soil Resource [ENV] (4.0 cr)
or SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)

Technology

AFEE 3112 - Building Construction Technology (3.0 cr)

Education

EDHD 5008 - Reading in the Content Areas for Initial Licensure Candidates (1.0 - 2.0 cr)
EDHD 5007 - Technology for Teaching and Learning (1.5 cr)
EDHD 5010 - Cultures, Schools, and Communities (Human Relations) (2.0 cr)
EDHD 5020 - Cultures, Schools, and Communities (Human Relations) (1.0 cr)
EDHD 5016 - Teaching Students with Special Needs in Inclusive Settings (1.0 cr)
EDHD 5000 - Cultures, Schools, and Communities (Human Relations) (1.0 cr)
EDHD 5015 - Teaching Students with Special Needs in Inclusive Settings (1.0 cr)
PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)
EDHD 5013 - Child and Adolescent Development for Teaching and Learning (1.0 cr)
EDHD 5014 - Child and Adolescent Development for Teaching and Learning (2.0 cr)

Agricultural Education

AFEE 5112 - Agricultural Education Program Organization and Curriculum for Youth (3.0 cr)
AFEE 5114 - Agricultural Education Teaching Seminar (1.0 cr)
AFEE 5116 - Coordination of SAE Programs: Work-based Learning (2.0 cr)
AFEE 5118 - Strategies for Managing and Advising the FFA Organization (2.0 cr)
AFEE 5697 - Teaching Internship: School and Classroom Setting (2.0 cr)
AFEE 5698 - Teaching Internship (3.0 - 8.0 cr)
AFEE 3221 - Communication for Agriculture, Food, and the Environment (3.0 cr)
or COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Twin Cities Campus

Agricultural Industries and Marketing B.S.

College of Food, Agri & Natural Resource Sciences

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 108
- Degree: Bachelor of Science

This major prepares students for careers in agricultural industries. Industries related to modern agriculture include manufacturers and distributors of farm production inputs (such as equipment, structures, health products, seeds, fertilizers, and crop protection products); assemblers, processors, manufacturers, and distributors of products originating from farms (products such as meat, milk, eggs, wool, grains, fruits, vegetables, nursery crops, flowers, and turf); and finance and insurance industries providing agricultural credit. Agribusinesses such as these, as well as state, federal, and marketing agencies, need individuals who have a broad education in the scientific (and technical) aspects of agriculture, effective work and communication skills, and quantitative and qualitative skills to solve business problems.

The scientific knowledge and technical skills necessary to become an effective agribusiness professional are provided through requirements in the basic and agricultural sciences and are strengthened by selection of one of three areas of emphasis: crops and soils industries, food industries, or an individualized emphasis.

With 21 free standing elective credits, all AIM majors are encouraged to pursue a CFANS or other minor. Only 6 credits in the AIM major may also be counted towards a minor. For students interested in preparing for the Certified Crop Advisor (CCA) exam or the certified professional agronomist (CPAg) programs, a minor in agronomy is highly recommended.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students must complete at least 14 credits in their sub-plan emphasis plus an internship or a student project.

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Quantitative Foundations

MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
ANSC 3011 - Statistics for Animal Science (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)

Communication

WRIT 1301 - University Writing (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
COMM 3411 - Introduction to Small Group Communication (3.0 cr)
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

COMM 3441 - Introduction to Organizational Communication (3.0 cr)
or COMM 3422 - Interviewing and Communication (3.0 cr)

Business Management
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
APEC 1102 - Principles of Macroeconomics (3.0 cr)
APEC 1251 - Principles of Accounting (3.0 cr)
MKTG 3001 - Principles of Marketing (3.0 cr)
APEC 3411 - Commodity Marketing (3.0 cr)
or APEC 4451W - Food Marketing Economics [CIV, WI] (3.0 cr)
APEC 3451 - Food and Agricultural Sales (3.0 cr)
or MKTG 4030 - Sales Management (4.0 cr)
APEC 3811 - Principles of Farm Management (3.0 cr)
or APEC 3821 - Retail Center Management (3.0 cr)
or MGMT 3001 - Fundamentals of Management (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Crops and Soils Industries

Students must complete at least 14 credits in their area of emphasis and an internship or a student project.

Science Foundations
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
AGRO 1101 - Biology of Plant Food Systems [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or HORT 2100 - Agricultural Biochemistry (3.0 cr)
Agriculture
AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
AGRO 1660 - First-Year Colloquium/Experience in Agroecosystems Analysis (2.0 cr)
AGRO 4660 - Senior Capstone (2.0 cr)
AGRO 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
or AIM 4011 - Student Project/Field Investigation (3.0 cr)
or AGRO 4093 - Directed Studies for Advanced Students (1.0 - 4.0 cr)
Crops and Soils Industries
CFAN 3001 - Pests and Crop Protection (3.0 cr)
SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
AGRO 4005 - Applied Crop Physiology and Development (4.0 cr)
or HORT 3005W - Environmental Effects on Horticultural Crops [WI] (4.0 cr)
or take the following course pair
BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
or AGRO 4103 - World Food Problems [GP] (3.0 cr)
or AGRO 4401 - Plant Genetics and Breeding (4.0 cr)
or AGRO 4505 - Biology, Ecology, and Management of Invasive Plants (3.0 cr)
or AGRO 4603 - Field Crop Scouting and Problem Diagnosis (3.0 cr)
or AGRO 4605 - Management Strategies for Crop Production (3.0 cr)
or ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)

Food Industries

Students must complete at least 14 credits in the area of emphasis and an internship or a student project.

Science Foundations
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)

CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
AGRO 1101 - Biology of Plant Food Systems [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)

Food and Nutrition

FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
FSCN 1112 - Principles of Nutrition (3.0 cr)
FSCN 2021 - Introductory Microbiology (4.0 cr)
or VBS 2032 - General Microbiology With Laboratory (5.0 cr)
AIM 4011 - Student Project/Field Investigation (3.0 cr)
or FSCN 4096 - Professional Experience Program: Internship (1.0 - 4.0 cr)
or AGRO 4093 - Directed Studies for Advanced Students (1.0 - 4.0 cr)
Orientation
AFEE 1002 - Principles of Career Planning for Agricultural Professionals (1.0 cr)
or AGRO 1660 - First-Year Colloquium/Experience in Agroecosystems Analysis (2.0 cr)

Food Industries

FSCN 3102 - Introduction to Food Science (3.0 cr)
FSCN 3731 - Food Service Operations Management Laboratory (2.0 cr)
FSCN 3732 - Food Service Operations Management (3.0 cr)
FSCN 4131 - Food Quality (3.0 cr)
ANSC 1511 - Food Animal Products for Consumers (3.0 cr)
or FSCN 3612 - Life Cycle Nutrition (3.0 cr)
or FSCN 3615 - Sociocultural Aspects of Food, Nutrition, and Health [GP] (3.0 cr)
or FSCN 4614 - Community Nutrition [SOCS, DSJ] (3.0 cr)
or MKTG 3010 - Marketing Research (4.0 cr)

Individualized

At least 14 credits must be selected in consultation with an adviser and with approval of the AIM major committee. The courses comprising the individualized emphasis must have a definite theme. A collection of unrelated courses is unacceptable.

Science Foundations

CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
AGRO 1101 - Biology of Plant Food Systems [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or HORT 2100 - Agricultural Biochemistry (3.0 cr)

Individualized Emphasis Electives

14 credits from individual electives

Agriculture

AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
AGRO 4660 - Senior Capstone (2.0 cr)
AGRO 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
or AIM 4011 - Student Project/Field Investigation (3.0 cr)
or AGRO 4093 - Directed Studies for Advanced Students (1.0 - 4.0 cr)
Orientation
APEC 1001 - Orientation to Applied Economics (1.0 cr)
or AFEE 1002 - Principles of Career Planning for Agricultural Professionals (1.0 cr)
or AGRO 1660 - First-Year Colloquium/Experience in Agroecosystems Analysis (2.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Animal Science B.S.

Animal Science

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 81 to 97
- This program requires summer terms.
- Degree: Bachelor of Science

The animal science major prepares students for veterinary school, work as managers and technical advisers for animal production systems, various careers in animal industries or biotechnology, or graduate study in animal related specializations. Areas of emphasis include industry, production, or science/pre-vet. In addition, depending on the area of emphasis, students may select from the following areas of study: biotechnology, dairy, beef, sheep, swine, equine, companion animal, or poultry.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Foundation Courses

One semester of calculus is required for biotechnology option in the science/pre-veterinary sub-plan.
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or AFEE 3221 - Communication for Agriculture, Food, and the Environment (3.0 cr)

Professional Courses

ANSC 1101 - Introductory Animal Science (4.0 cr)
ANSC 3011 - Statistics for Animal Science (4.0 cr)
ANSC 2401 - Animal Nutrition (3.0 cr)
ANSC 3221 - Animal Breeding (4.0 cr)
ANSC 3301 - Human and Animal Physiology (3.0 cr)
ANSC 3302 - Human and Animal Physiology Laboratory (1.0 cr)
Students must take a minimum of 3 credits of internship or a minimum of 6 credits of senior thesis.
ANSC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
or ANSC 4009W - Undergraduate Senior Thesis: Science in Agriculture [WI] (1.0 - 6.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Animal Production

In the animal production emphasis students may select from the following areas of study: dairy, beef, sheep, swine, equine, companion animal, or poultry.

Production

ANSC 1511 - Food Animal Products for Consumers (3.0 cr)
ANSC 3609 - Business Planning for Animal Enterprises (2.0 cr)
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or HORT 2100 - Agricultural Biochemistry (3.0 cr)

Animal Science Electives

AGRO 1103 is required for dairy, beef, swine, sheep, and poultry options. Courses in this list cannot be used to fulfill requirements in other areas.
Take 22 or more credits(s) from the following:

•AFEE 2051 - Current Technical Competencies (3.0 cr)
•CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
•AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
•ANSC 1007 - Horse in Your Backyard (2.0 cr)
•ANSC 1011 - Animals and Society [CIV] (3.0 cr)
•ANSC 1403 - Companion Animal Nutrition and Care (3.0 cr)
•ANSC 1511 - Food Animal Products for Consumers (3.0 cr)
•ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
•ANSC 2013 - Beginning Livestock Judging (2.0 cr)
•APEC 1251 - Principles of Accounting (3.0 cr)
•SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
•VBS 2032 - General Microbiology With Laboratory (5.0 cr)
•ANSC 3007 - Equine Nutrition (3.0 cr)
•ANSC 3142 - Advanced Livestock Judging (2.0 cr)
•ANSC 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•ANSC 3305 - Reproductive Biology in Health and Disease (4.0 cr)
•ANSC 3501 - Farm Animal Environment (3.0 cr)
•ANSC 3509 - Animal Biotechnology (3.0 cr)
•ANSC 3511 - Animal Growth and Development (3.0 cr)
•ANSC 4011 - Dairy Cattle Breeding (3.0 cr)
•ANSC 4401 - Swine Nutrition (3.0 cr)
•ANSC 4403 - Ruminant Nutrition (3.0 cr)
•ANSC 4404 - Applied Dairy Nutrition (2.0 cr)
•ANSC 4601 - Pork Production Systems Management (4.0 cr)
•ANSC 4602 - Sheep Production Systems Management (4.0 cr)
•ANSC 4603 - Beef Production Systems Management (4.0 cr)
•ANSC 3609 - Business Planning for Animal Enterprises (2.0 cr)
•ANSC 4604 - Dairy Production Systems Management (4.0 cr)
•ANSC 4611 - Advanced Pork Production Systems Management (2.0 cr)

•ANSC 4613 - Advanced Beef Production Systems Management (2.0 cr)
•ANSC 4614 - Advanced Dairy Production Systems Management (2.0 cr)
•APEC 3411 - Commodity Marketing (3.0 cr)
•APEC 3451 - Food and Agricultural Sales (3.0 cr)
•APEC 3811 - Principles of Farm Management (3.0 cr)
•ENT 3281 - Veterinary Entomology (3.0 cr)
•VCS 4606 - Small Animal Management (3.0 cr)
•VPM 3700 - Equine Reproduction and Breeding Management (2.0 cr)
•ANSC 1701 - Historical Influence of the Horse on Society [HIS] (3.0 cr)
•ANSC 3307 - Artificial Insemination Techniques (1.0 cr)
•ANSC 1001 - Orientation to Animal Science (1.0 cr)
•ANSC 2056 - Horse Management Practicum (2.0 cr)
•ANSC 3403 - Companion Animal Hot Button Issues (3.0 cr)

Animal Production Focus

Dairy
ANSC 4011 - Dairy Cattle Breeding (3.0 cr)
ANSC 4403 - Ruminant Nutrition (3.0 cr)
ANSC 4604 - Dairy Production Systems Management (4.0 cr)
ANSC 4614 - Advanced Dairy Production Systems Management (2.0 cr)

-OR-

Beef
ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
ANSC 4403 - Ruminant Nutrition (3.0 cr)
ANSC 4603 - Beef Production Systems Management (4.0 cr)
ANSC 4613 - Advanced Beef Production Systems Management (2.0 cr)

-OR-

Sheep
ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
ANSC 4403 - Ruminant Nutrition (3.0 cr)
ANSC 4602 - Sheep Production Systems Management (4.0 cr)

-OR-

Swine
ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
ANSC 4401 - Swine Nutrition (3.0 cr)
ANSC 4601 - Pork Production Systems Management (4.0 cr)
ANSC 4611 - Advanced Pork Production Systems Management (2.0 cr)

-OR-

Equine
ANSC 2055 - Horse Management (2.0 cr)
ANSC 3007 - Equine Nutrition (3.0 cr)
VPM 3700 - Equine Reproduction and Breeding Management (2.0 cr)
ANSC 2056 - Horse Management Practicum (2.0 cr)

-OR-

Companion Animal
ANSC 1403 - Companion Animal Nutrition and Care (3.0 cr)
VCS 4606 - Small Animal Management (3.0 cr)
One additional course to be determined in consultation with an adviser
ANSC 3403 - Companion Animal Hot Button Issues (3.0 cr)

-OR-

Poultry
The three poultry courses must be taken from the Midwest Poultry Consortium (MPC) Summer Program at Madison, Wisconsin. Courses cannot count for requirements in this section and professional courses.
Three MPC summer courses

-OR-

Individualized Option

Students select 12 credits in consultation with an adviser and with the approval of the Animal Production Systems Committee.
Individual electives

Animal Industry

Animal Industry Courses

APEC 1102 - Principles of Macroeconomics (3.0 cr)
APEC 1251 - Principles of Accounting (3.0 cr)
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or HORT 2100 - Agricultural Biochemistry (3.0 cr)

Take 4 or more course(s) from the following:

•ANSC 3801 - Livestock Merchandising (3.0 cr)
•APEC 3001 - Applied Microeconomics: Consumers, Producers, and Markets (4.0 cr)
•APEC 3002 - Applied Microeconomics: Managerial Economics (4.0 cr)
•APEC 3411 - Commodity Marketing (3.0 cr)
•APEC 3451 - Food and Agricultural Sales (3.0 cr)
•APEC 3501 - Agribusiness Finance (3.0 cr)
•APEC 3811 - Principles of Farm Management (3.0 cr)
•APEC 3821 - Retail Center Management (3.0 cr)
•APEC 4451W - Food Marketing Economics [CIV, WI] (3.0 cr)
•APEC 4821W - Business Economics and Strategy [WI] (3.0 cr)
•OLPD 3461 - Professional Sales Management (3.0 cr)
•JOUR 3201 - Principles of Strategic Communication (3.0 cr)

Animal Science Electives

Courses in this list cannot be used to fulfill requirements in other areas.
Take 12 or more credits(s) from the following:

•CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
•AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
•ANSC 1007 - Horse in Your Backyard (2.0 cr)
•ANSC 1011 - Animals and Society [CIV] (3.0 cr)
•ANSC 1403 - Companion Animal Nutrition and Care (3.0 cr)
•ANSC 1511 - Food Animal Products for Consumers (3.0 cr)
•ANSC 2012 - Livestock and Carcass Evaluation (3.0 cr)
•ANSC 2013 - Beginning Livestock Judging (2.0 cr)
•ANSC 3007 - Equine Nutrition (3.0 cr)
•ANSC 3142 - Advanced Livestock Judging (2.0 cr)
•ANSC 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•ANSC 3305 - Reproductive Biology in Health and Disease (4.0 cr)
•ANSC 3501 - Farm Animal Environment (3.0 cr)
•ANSC 3509 - Animal Biotechnology (3.0 cr)
•ANSC 3511 - Animal Growth and Development (3.0 cr)
•ANSC 3609 - Business Planning for Animal Enterprises (2.0 cr)
•ANSC 4011 - Dairy Cattle Breeding (3.0 cr)
•ANSC 4401 - Swine Nutrition (3.0 cr)
•ANSC 4403 - Ruminant Nutrition (3.0 cr)
•ANSC 4404 - Applied Dairy Nutrition (2.0 cr)
•ANSC 4611 - Advanced Pork Production Systems Management (2.0 cr)
•ANSC 4613 - Advanced Beef Production Systems Management (2.0 cr)
•ANSC 4614 - Advanced Dairy Production Systems Management (2.0 cr)
•ENT 3281 - Veterinary Entomology (3.0 cr)
•FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
•SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
•VPM 3700 - Equine Reproduction and Breeding Management (2.0 cr)
•ANSC 1701 - Historical Influence of the Horse on Society [HIS] (3.0 cr)
•ANSC 3801 - Livestock Merchandising (3.0 cr)
•ANSC 1001 - Orientation to Animal Science (1.0 cr)
•ANSC 2056 - Horse Management Practicum (2.0 cr)
•ANSC 3403 - Companion Animal Hot Button Issues (3.0 cr)

Animal Management

ANSC 4601 - Pork Production Systems Management (4.0 cr)
or ANSC 4602 - Sheep Production Systems Management (4.0 cr)

or ANSC 4603 - Beef Production Systems Management (4.0 cr)
or ANSC 4604 - Dairy Production Systems Management (4.0 cr)
or VCS 4606 - Small Animal Management (3.0 cr)
or ANSC 2055 - Horse Management (2.0 cr)
ANSC 2056 - Horse Management Practicum (2.0 cr)

Science/Pre-Vet

Students in the science/pre-veterinary emphasis must select either the basic science or biotechnology option.

Core Courses

BIOC 3021 - Biochemistry (3.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
GCD 3022 - Genetics (3.0 cr)
Take one of the follow pairs of courses
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or FSCN 2021 - Introductory Microbiology (4.0 cr)

Science/Pre-Veterinary Options

Basic Science Option

Any animal science course not used to fulfill another requirement may also be used as a basic science elective.
Take 12 or more credits(s) from the following:
•CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
•ANSC 1011 - Animals and Society [CIV] (3.0 cr)
•ANSC 1403 - Companion Animal Nutrition and Care (3.0 cr)
•ANSC 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•ANSC 3305 - Reproductive Biology in Health and Disease (4.0 cr)
•ANSC 3509 - Animal Biotechnology (3.0 cr)
•ANSC 3511 - Animal Growth and Development (3.0 cr)
•ANSC 4011 - Dairy Cattle Breeding (3.0 cr)
•ANSC 4401 - Swine Nutrition (3.0 cr)
•ANSC 4403 - Ruminant Nutrition (3.0 cr)
•ENT 3281 - Veterinary Entomology (3.0 cr)
Must select at least one course from the following.
ANSC 4601 - Pork Production Systems Management (4.0 cr)
or ANSC 4602 - Sheep Production Systems Management (4.0 cr)
or ANSC 4603 - Beef Production Systems Management (4.0 cr)
or ANSC 4604 - Dairy Production Systems Management (4.0 cr)
or VCS 4606 - Small Animal Management (3.0 cr)
or ANSC 2055 - Horse Management (2.0 cr)
ANSC 2056 - Horse Management Practicum (2.0 cr)

-OR-

Biotechnology Option

CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
ANSC 3509 - Animal Biotechnology (3.0 cr)
Select at least 2 credits of a laboratory.
Take 11 or more credits(s) from the following:
•ANSC 3511 - Animal Growth and Development (3.0 cr)
•ANSC 3305 - Reproductive Biology in Health and Disease (4.0 cr)
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•BIOC 5001 - Biochemistry, Molecular and Cellular Biology (5.0 cr)
•GCD 4025 - Cell Biology Laboratory (2.0 cr)
•GCD 4143 - Human Genetics (3.0 cr)
•GCD 4151 - Molecular Biology of Cancer (3.0 cr)

- GCD 4161 - Developmental Biology (3.0 cr)
- GCD 5036 - Molecular Cell Biology (3.0 cr)
- MICB 4131 - Immunology (3.0 cr)
- MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
- MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
- MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
- ANSC 3521 - Biotechnology Applications in Pharmaceutical Research and Development (3.0 cr)

Twin Cities Campus

Applied Economics B.S.

Applied Economics

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 52
- Degree: Bachelor of Science

The applied economics major prepares students for careers in private industry, government agencies, agribusiness, or graduate work. Students may choose one of six professional application clusters: management and finance; marketing; food retailing; trade and development; resources and environment; or regional and public economics. Students may also, in consultation with their adviser, develop an individualized application cluster.

The curriculum emphasizes fundamental written and oral communication skills and a strong foundation in mathematics and economic principles and their applications. Areas of employment for graduates include management, finance, marketing and international trade, domestic and international development, environmental impact assessment, resource management and use, and government-related work in planning, taxation, and development. Entry-level jobs are often in merchandising and sales, credit analysis, management, and other customer contact areas.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Every student's program is capped off with 12 credits of advanced-level coursework, called a professional application cluster.

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Foundation Courses

Students considering graduate study in applied economics are encouraged to take MATH 1271 and MATH 1272
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Writing Performance

WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
COMM 1313W - Analysis of Argument [WI] (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3221W - Communication Modes and Methods [WI] (4.0 cr)

Speech Performance

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
COMM 3441 - Introduction to Organizational Communication (3.0 cr)
or WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
COMM 3411 - Introduction to Small Group Communication (3.0 cr)

Additional Social Science

Students majoring in applied economics must complete 3 credits in social sciences beyond the 3 credits required for liberal education. The 3 credits may not be in courses with the APEC or ECON designator.

Social science course

Ethics and Responsible Management

Students must take one course (3 cr) from the list below that fosters one or more of the following objectives: responsible judgment about management of natural resources and environment; responsible judgment regarding ethical/policy issues related to agriculture; application of global perspectives to agricultural, food, and environmental issues/decisions; application of a historical perspective to the role of science/technology.

Take 1 or more course(s) from the following:

•AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
•AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•ANSC 1011 - Animals and Society [CIV] (3.0 cr)
•BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
•BBE 5212 - Safety and Environmental Health Issues in Plant and Animal Production and Processing (3.0 cr)
•BIOL 1050 - Our Global Environment: Science and Solutions [ENV] (3.0 cr)
•CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
•EE 1701W - Energy, Environment, and Society [WI] (3.0 cr)
•EEB 3001 - Ecology and Society [ENV] (3.0 cr)
•ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
•ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
•ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
•FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
•ESCI 3005 - Earth Resources (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•HSCI 3211 - Biology and Culture in the 19th and 20th Centuries [HIS] (3.0 cr)
•HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)
•HSCI 3332 - Science and American Culture [HIS, DSJ] (3.0 cr)
•PBIO 1212 - Plant Biotechnology and Society [TS] (3.0 cr)

Professional Courses

APEC 1001 - Orientation to Applied Economics (1.0 cr)
or CFAN 3201 - Career and Internship Preparation (1.0 cr)
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
APEC 1102 - Principles of Macroeconomics (3.0 cr)
APEC 3001 - Applied Microeconomics: Consumers, Producers, and Markets (4.0 cr)
APEC 3002 - Applied Microeconomics: Managerial Economics (4.0 cr)
APEC 3006 - Applied Macroeconomics: Government and the Economy (3.0 cr)
APEC 3007 - Applied Macroeconomics: Policy, Trade, and Development [GP] (3.0 cr)
ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Food Retailing

Students take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991), plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below for a total of 12 credits minimum. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Food Retailing Core Courses

Take 12 or more credits(s) from the following:
•Take 2 or more course(s) from the following:
•APEC 3451 - Food and Agricultural Sales (3.0 cr)
•APEC 3821 - Retail Center Management (3.0 cr)
•APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
•APEC 4451W - Food Marketing Economics [CIV, WI] (3.0 cr)
•APEC 4481 - Futures and Options Markets (3.0 cr)
•APEC 4501 - Financial Modeling (3.0 cr)
•Take 2 or more course(s) from the following:
•RM 2215 - Multichannel Retailing (3.0 cr)

- RM 3242 - Retail Buying (3.0 cr)
- HRIR 3032 - Training and Development (2.0 cr)
- HRIR 3042 - The Individual and Organizational Performance (2.0 cr)
- MKTG 3040 - Buyer Behavior (4.0 cr)
- MKTG 4060 - Marketing Channels (4.0 cr)
- MKTG 4080W - Marketing Strategy [WI] (4.0 cr)
- SCO 3001 - Introduction to Operations Management (3.0 cr)
- SCO 3056 - Supply Chain Planning and Control (4.0 cr)

Resources and the Environment

Students must take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991) plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below, for a total of at least 12 credits. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Resources and Environment Electives

Take 12 or more credits(s) from the following:

- Take 2 or more course(s) from the following:
  - APEC 3611W - Environmental and Natural Resource Economics [ENV, WI] (3.0 cr)
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 5651 - Economics of Natural Resource and Environmental Policy (3.0 cr)
  - APEC 5711 - U.S. Agricultural and Environmental Policy (3.0 cr)
- Take 2 or more course(s) from the following:
  - ECON 4831 - Cost-Benefit Analysis (3.0 cr)
  - ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
  - ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
  - ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
  - ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
  - GEOG 3331 - Geography of the World Economy [SOCS, GP] (3.0 cr)
  - URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)

Trade and Development

Students must take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991) plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below, for a total of at least 12 credits. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Trade and Development Electives

Take 12 or more credits(s) from the following:

- Take 2 or more course(s) from the following:
  - APEC 3061 - General Survey of Development in Africa [GP] (3.0 cr)
  - APEC 3071 - Agriculture and Economic Growth in Developing Countries (3.0 cr)
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 4103 - World Food Problems [GP] (3.0 cr)
  - APEC 5711 - U.S. Agricultural and Environmental Policy (3.0 cr)
  - APEC 5751 - Global Trade and Policy (3.0 cr)
- Take 2 or more course(s) from the following:
  - ECON 4301 - Economic Development [WI] (3.0 cr)
  - ECON 4307 - Comparative Economic Systems (3.0 cr)
  - ECON 4311 - Economy of Latin America (3.0 cr)
  - ECON 4313 - The Russian Economy (3.0 cr)
  - ECON 4315 - The Japanese Economy (3.0 cr)
  - ECON 4331W - Economic Development [WI] (3.0 cr)
  - ECON 4337 - Comparative Economic Systems (3.0 cr)
  - ECON 4421W - Economic Integration of the Americas [WI] (3.0 cr)
  - ECON 4432W - International Finance [WI] (3.0 cr)

Individualized Professional

Students develop a program in consultation with an adviser.

Students must take at least 12 credits.

Individualized Professional Application Courses

Courses listed here are suggestions. All courses must be chosen in consultation with an adviser.

Take 12 or more credits(s) from the following:

•APEC 3xxx
•APEC 4xxx
•HRIR 3xxx
•HRIR 4xxx
•MGMT 3xxx
•MGMT 4xxx
•MKTG 3xxx
•MKTG 4xxx

Management and Finance

Students must take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991) plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below, for a total of at least 12 credits. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Management and Finance Core Courses

Take 12 or more credits(s) from the following:
•Take 2 or more course(s) from the following:
•APEC 3811 - Principles of Farm Management (3.0 cr)
•APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
•APEC 4481 - Futures and Options Markets (3.0 cr)
•APEC 4501 - Financial Modeling (3.0 cr)
•APEC 4821W - Business Economics and Strategy [WI] (3.0 cr)
•APEC 5811 - Cooperative Organization (3.0 cr)
•APEC 3501 - Agribusiness Finance (3.0 cr)
or FINA 3001 - Finance Fundamentals (3.0 cr)
•Take 2 or more course(s) from the following:
•ACCT 3001 - Introduction to Management Accounting (3.0 cr)
•ACCT 5160 - Financial Statement Analysis (2.0 cr)
•ECON 4751 - Financial Economics (3.0 cr)
•FINA 4221 - Principles of Corporate Finance (2.0 cr)
•HRIR 3021 - Human Resource Management and Industrial Relations (3.0 cr)
•MGMT 3001 - Fundamentals of Management (3.0 cr)
•ECON 3701 - Money and Banking (3.0 cr)
or ECON 4721 - Money and Banking (3.0 cr)

Marketing

Students must take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991) plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below, for a total of at least 12 credits. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Marketing Core Courses

Take 12 or more credits(s) from the following:
•Take 2 or more course(s) from the following:
•APEC 3411 - Commodity Marketing (3.0 cr)
•APEC 3451 - Food and Agricultural Sales (3.0 cr)
•APEC 3821 - Retail Center Management (3.0 cr)
•APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
•APEC 4461 - Horticultural Marketing (3.0 cr)
•APEC 4481 - Futures and Options Markets (3.0 cr)
•APEC 4501 - Financial Modeling (3.0 cr)
•Take 2 or more course(s) from the following:
•RM 2215 - Multichannel Retailing (3.0 cr)
•MKTG 3001 - Principles of Marketing (3.0 cr)
•MKTG 3010 - Marketing Research (4.0 cr)
•MKTG 3040 - Buyer Behavior (4.0 cr)
•MKTG 4030 - Sales Management (4.0 cr)
•MKTG 4050 - Integrated Marketing Communications (4.0 cr)
•MKTG 4060 - Marketing Channels (4.0 cr)

Regional and Public Economics

Students must take at least two upper division APEC courses (including no more than one of the following: 3991, 4096, 5891, 5991) plus two additional courses from APEC, ECON, Carlson School of Management, or other courses listed below, for a total of at least 12 credits. While students are encouraged to complete credits in one of the following areas, students may select courses across the categories in consultation with their adviser.

Regional and Public Economics Electives
Take 12 or more credits(s) from the following:
- Take 2 or more course(s) from the following:
  - APEC 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
  - APEC 5321 - Regional Economic Analysis (3.0 cr)
  - APEC 5341 - Public Finance (3.0 cr)
- Take 2 or more course(s) from the following:
  - ECON 3801 - Elements of Public Economics (3.0 cr)
  - ECON 4307 - Comparative Economic Systems (3.0 cr)
  - ECON 4337 - Comparative Economic Systems (3.0 cr)
  - ECON 4531 - Labor Economics (3.0 cr)
  - ECON 4631 - Industrial Organization and Antitrust Policy (3.0 cr)
  - ECON 4831 - Cost-Benefit Analysis (3.0 cr)
  - URBS 1001W - Introduction to Urban Studies: The Complexity of Metropolitan Life [WI] (3.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Applied Plant Science B.S.

Agronomy & Plant Genetics

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 73 to 82
- This program requires summer terms.
- Degree: Bachelor of Science

The applied plant science major provides options for a broad course of study in plant sciences, as well as options to concentrate more specifically within an area of individual interest. It provides a solid science background and integrates knowledge of science, environment, production and industry in preparation for continuing study in graduate school or careers in improvement of the quality and benefits of plants and plant products; industry, government, and universities as research scientists; agencies and organizations concerned with natural resource management; advisory, inspection and certification services; bio-safety and food security; related fields of biology and agricultural education.

Students choose from three areas of emphasis: agroecology, plant improvement, and plant utilization.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Students develop a plan of study that fulfills the required science core (43-49 credits) and area electives (12-17 credits). Students enroll in a set of three common courses in their freshman year and a series of three integrative courses in each of the following three years. The last course in the series is the senior capstone course. After fulfilling CLE and major requirements, students should have between 15 and 22 credits available for electives.

Science Foundation Courses

BIOL 2022 - General Botany (3.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
AGRO 4005 - Applied Crop Physiology and Development (4.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
or HORT 3005W - Environmental Effects on Horticultural Crops [WI] (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
UNKNOWN
UNKNOWN
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Major Courses

AGRO 1103 - Crops, Environment, and Society [ENV] (4.0 cr)
AGRO 1660 - First-Year Colloquium/Experience in Agroecosystems Analysis (2.0 cr)

AGRO 4660 - Senior Capstone (2.0 cr)
AGRO 4096 - Professional Experience Program: Internship (1.0 - 3.0 cr)
or AGRO 4097 - Undergraduate Research Thesis (1.0 - 6.0 cr)
AGRO 3660 - Plant Genetic Resources: Identification, Conservation, and Utilization (3.0 cr)
Take 1 or more course(s) from the following:
•CFAN 1501 - Biotechnology, People, and the Environment [TS] (3.0 cr)
•CFAN 3001 - Pests and Crop Protection (3.0 cr)
•AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•AGRO 4103 - World Food Problems [GP] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Agroecology

Agroecology

SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)
BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Electives

Take 17 or more credits(s) including 4 or more sub-requirements(s) from the following:
•Take 1 or more course(s) from the following:
•AGRO 2501 - Plant Identification for Urban and Rural Landscapes (2.0 cr)
•ENT 5021 - Insect Taxonomy and Phylogeny (4.0 cr)
•ENT 5371 - Principles of Systematics (3.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•Take 1 or more course(s) from the following:
•AGRO 4505 - Biology, Ecology, and Management of Invasive Plants (3.0 cr)
•ENT 1005 - Insect Biology [BIOL] (4.0 cr)
•ENT 5211 *{Inactive}*(3.0 cr)
•ENT 5341 - Biological Control of Insects and Weeds (3.0 - 4.0 cr)
•PLPA 2001 - Introductory Plant Pathology (3.0 cr)
•*UNKNOWN*
•*UNKNOWN*
•PLPA 5103 - Plant-Microbe Interactions (3.0 cr)
•*UNKNOWN*
•PLPA 5480 - Principles of Plant Pathology (3.0 cr)
•Take 1 or more course(s) from the following:
•AGRO 3131 - Student Organic Farm Planning, Growing, and Marketing (3.0 cr)
•AGRO 4605 - Management Strategies for Crop Production (3.0 cr)
•HORT 3131 - Student Organic Farm Planning, Growing, and Marketing (3.0 cr)
•HORT 5052 *{Inactive}*(3.0 cr)
•SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
•Take 1 or more course(s) from the following:
•AGRO 5321 - Ecology of Agricultural Systems (3.0 cr)
•ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)
•ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
•HORT 5031 - Organic Viticulture and Fruit Production (3.0 cr)
•HORT 5032 - Organic Vegetable Production (3.0 cr)
•HORT 5071 - Ecological Restoration (4.0 cr)
•PLPA 2001 - Introductory Plant Pathology (3.0 cr)

Plant Utilization

Plant Utilization

BIOC 3021 - Biochemistry (3.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
FSCN 3102 - Introduction to Food Science (3.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Electives

Take 12 or more credits(s) from the following:
•AGRO 4401 - Plant Genetics and Breeding (4.0 cr)
•BBE 4744 - Engineering Principles for Biological Scientists (4.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
•EEB 3001 - Ecology and Society [ENV] (3.0 cr)
•FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
•FSCN 1112 - Principles of Nutrition (3.0 cr)
•FSCN 4121 - Food Microbiology (3.0 cr)
•FSCN 4332 - Food Processing Operations (3.0 cr)
•FSCN 4612 - Advanced Human Nutrition (4.0 cr)
•FSCN 5441 - Introduction to New Product Development (2.0 cr)
•FSCN 5531 - Grains: Introduction to Cereal Chemistry and Technology (2.0 cr)
•HORT 5031 - Organic Viticulture and Fruit Production (3.0 cr)
•HORT 5032 - Organic Vegetable Production (3.0 cr)
•HORT 5052 *{Inactive}*(3.0 cr)
•BBE 4001 - Chemistry of Biomass and Biomass Conversion to Fuels and Products [ENV] (4.0 cr)
or PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
or PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
or PBIO 5516 - Plant Cell Biology (3.0 cr)

Plant Improvement

Plant Improvement

AGRO 4401 - Plant Genetics and Breeding (4.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
UNKNOWN
CHEM 2301 - Organic Chemistry I (3.0 cr)
BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)

Electives

Take 12 or more credits(s) from the following:
•BBE 3013 - Engineering Principles of Molecular and Cellular Processes (3.0 cr)
•BIOC 4025 - Laboratory in Biochemistry (2.0 cr)
•BIOC 4125 - Laboratory in Molecular Biology and Biotechnology (3.0 cr)
•EEB 3001 - Ecology and Society [ENV] (3.0 cr)
•HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
•HORT 5031 - Organic Viticulture and Fruit Production (3.0 cr)
•HORT 5032 - Organic Vegetable Production (3.0 cr)
•HORT 5052 *{Inactive}*(3.0 cr)
•PBIO 5301 - Plant Genomics (3.0 cr)
•PBIO 5412 - Plant Physiology (3.0 cr)
•PBIO 5514 - Plant Molecular Genetics and Development (3.0 cr)
•PLPA 5103 - Plant-Microbe Interactions (3.0 cr)
•PLPA 5300 - Current Topics in Molecular Plant Pathology (1.0 - 2.0 cr)
•SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
•PBIO 4516W - Plant Cell Biology: Writing Intensive [WI] (3.0 cr)
or PBIO 5516 - Plant Cell Biology (3.0 cr)
or PBIO 4601 - Topics in Plant Biochemistry (3.0 cr)
or BBE 4001 - Chemistry of Biomass and Biomass Conversion to Fuels and Products [ENV] (4.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Bioproducts Marketing and Management B.S.

Bioproducts and Biosystems Engineering

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 97 to 113
- Degree: Bachelor of Science

Bio-based products are materials, chemicals, and energy derived from renewable, bio-resources, including forestry, agriculture, and other biomass. Many of the commercial products and forms of energy that we use today and come from depleting fossil fuels can be derived from renewable, bio-resources. The molecular building blocks and components of biomass can be harnessed to heat homes, run cars, light buildings, and provide industrial and consumer products. These products include fibers and fiber-based products, paper, board, engineered wood, structural panels, wood-based composites, renewable plastics, and bio-derived chemicals and fuels.

This major provides students with a strong foundation in the sustainable use of bio-resources while protecting the environment. The interdisciplinary bio-based products major combines coursework in science, engineering, technology, and business--all related to the manufacturing and end-use applications of materials, products, and energy from renewable resources.

Students choose one of the following two areas of specialization: bio-based products marketing and management or residential building science and technology. In addition, the department also offers a minor in bio-based products engineering that enables students in any of the basic sciences and engineering majors to gain a better understanding of and appreciation for sustainable use of the renewable resources.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All minor requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Physical and Biological Sciences

BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

Economics

APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)

Major Courses

BBE 1001 - Bioproducts and Biosystems Engineering Orientation (1.0 cr)
BBE 1002 - Biorenewable Resources [TS] (3.0 cr)
BBE 4302 - Biodegradation of Bioproducts (3.0 cr)
BBE 4407 - Bioproducts: Manufacturing and Applications (3.0 cr)
BBE 4412W - Biocomposites and Biomass Energy [WI] (4.0 cr)

BBE 4413 - Systems Approach to Residential Construction (4.0 cr)
BBE 4504W - Bio-based Products Development and Management [WI] (3.0 cr)
ESPM 2041 - Natural Resources Consumption and Sustainability [GP] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Residential Building Science and Technology

The residential building science and technology program is designed to investigate the important relationships between people, their homes, and the environment. From a solid scientific and engineering base, this interdisciplinary program builds critical thinking skills and helps students explore the opportunities that can enhance the performance of houses. The curriculum draws upon a wide range of resources across the University and includes physical science, social science, management, marketing, communications, material sciences, and engineering coursework.

The environment and international perspectives themes are satisfied automatically by completing required courses in the residential building science and technology specialization.

Communication Skills
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
Mathematical Thinking
MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
Chemistry and Physics
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
Residential Building Science and Technology
BBE 2001 - Mechanics and Structural Design (4.0 cr)
BBE 4414 - Advanced Residential Building Science (4.0 cr)
BBE 4416 - Building Testing and Diagnostics (2.0 cr)
CE 3402W - Civil Engineering Materials [WI] (3.0 cr)
CE 4101W *{Inactive}*[WI] (3.0 cr)
HSG 2463 - Housing and Community Development (3.0 cr)
SCO 3001 - Introduction to Operations Management (3.0 cr)
ARCH 1701 - The Designed Environment (3.0 cr)
or DES 1101W - Introduction to Design Thinking [AH, WI] (4.0 cr)
or LA 1101W *{Inactive}*[WI] (4.0 cr)
Electives
Course selections must be approved by faculty adviser.
Take 12 or more credits(s) from the following:
•ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
•ARCH 1281 - Design Fundamentals I (4.0 cr)
•ARCH 3711W - Environmental Design and the Sociocultural Context [WI] (3.0 cr)
•ARCH 4561 - Architecture and Ecology (3.0 cr)
•BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
•BBE 3503 - Marketing of Bio-based Products (4.0 cr)
•BBE 4355 - Design of Wood Structures (3.0 cr)
•BBE 4733 - Renewable Energy Technologies [TS] (3.0 cr)
•BLAW 3058 - The Law of Contracts and Agency (4.0 cr)
•CE 3301 - Soil Mechanics I (3.0 cr)
•CMGT 4011 - Construction Documents and Contracts (3.0 cr)
•CMGT 4021 - Construction Planning and Scheduling (3.0 cr)
•CMGT 4022 - Construction Estimating (3.0 cr)
•CMGT 4031 - Construction Safety and Loss Control (3.0 cr)
•HSG 2401 - Introduction to Housing (3.0 cr)
•HSG 4461 - Housing Development and Management (3.0 cr)
•HSG 4465 - Housing in a Global Perspective (3.0 cr)
•HSG 5463 - Housing Policy (3.0 cr)

•SUST 3003 - Sustainable People, Sustainable Planet [ENV] (3.0 cr)
•ESPM 3480 - Topics in Natural Resources (1.0 - 4.0 cr)
•ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
•ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
•ESPM 5019 - Business, Natural Environment, and Global Economy (2.0 cr)
•HRIR 3021 - Human Resource Management and Industrial Relations (3.0 cr)
•IE 5531 - Engineering Optimization I (4.0 cr)
•LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
•MGMT 3001 - Fundamentals of Management (3.0 cr)
•MKTG 3001 - Principles of Marketing (3.0 cr)
•SCO 3059 - Quality Management and Lean Six Sigma (4.0 cr)
•CMGT 2019 - AutoCAD for Construction Managers (2.0 cr)
or ARCH 3351 - AutoCAD I (3.0 cr)
or CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

General Electives

Minimum of 8 credits.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Marketing and Management

The bio-based products marketing and management specialization combines coursework in liberal arts, basic sciences, communications, and business. Students learn about the physical and social aspects of renewable bio-based products and resources, and the combination of marketing and sales courses with technical bio-based products engineering coursework prepares them for the growing bio-based products industries.

Mathematical Thinking

STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Physical and Biological Sciences

Take one of the following pairs of courses.
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Economics

APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Bio-Based Products Marketing and Management

ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
BBE 3101 - Introductory Statics and Structures for Construction Management (3.0 cr)
BBE 3503 - Marketing of Bio-based Products (4.0 cr)
MGMT 3001 - Fundamentals of Management (3.0 cr)
MKTG 3001 - Principles of Marketing (3.0 cr)
ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
FINA 3001 - Finance Fundamentals (3.0 cr)

or APEC 3501 - Agribusiness Finance (3.0 cr)

Electives

See your adviser for a list of recommended courses to total 120 credits.

Twin Cities Campus

Environmental Horticulture B.S.

Horticultural Science

College of Food, Agricultural and Natural Resource Sciences

- **Students will no longer be accepted into this program after Summer 2009. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 47 to 73
- Degree: Bachelor of Science

The environmental horticulture major educates and prepares students in all phases of horticulture: crop and plant production; education (botanic gardens and arboreta); service oriented activities (landscaping and landscape maintenance); plant use and function (design, reclamation, and restoration); and recreation (golf courses and parks). Students gain experience in the use of plants to alter environments, restore damaged landscapes, improve the health and well-being of individuals, educate people about science and agriculture, improve community environments, and provide recreational and practical benefits to the public.

Students choose either a business or science option. Landscape design, a joint offering with the College of Design (CDES), combines architecture and landscape architecture courses available in CDES with the plant-based design courses available in CFANS.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Applied courses in horticultural science, soil science, entomology, plant pathology, and applied economics vary depending on program. All required courses must be taken A-F, and students must earn a grade of at least C-.

Foundation Courses

BIOL 1009 - General Biology [BIOL] (4.0 cr)
CHEM 1011 *{Inactive}*(4.0 cr)
or CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)

Professional Courses

HORT 1001 - Plant Propagation [BIOL] (4.0 cr)
HORT 1015 - Woody and Herbaceous Plants (4.0 cr)
HORT 3005W - Environmental Effects on Horticultural Crops [WI] (4.0 cr)
HORT 4096 - Professional Experience Program: Internship (1.0 cr)
PLPA 2001 - Introductory Plant Pathology (3.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
ENT 3005 *{Inactive}*[BIOL] (4.0 cr)
or ENT 4015 - Ornamentals and Turf Entomolgy (3.0 cr)
or ENT 4251 - Forest and Shade Tree Entomology (3.0 cr)

Environmental Horticulture Options

Science Option
CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)

-OR-

Business Option
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
Take 3 or more course(s) from the following:
•MGMT 3001 - Fundamentals of Management (3.0 cr)
•MGMT 3010 - Introduction to Entrepreneurship (4.0 cr)
•HORT 4461 - Horticultural Marketing (3.0 cr)
•ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
or APEC 1251 - Principles of Accounting (3.0 cr)
•SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Floriculture/Nursery Production and Retail Management

21 credits are required.

Emphasis Area Requirements
APEC 3821 - Retail Center Management (3.0 cr)
HORT 4015 - Advanced Woody and Herbaceous Plant Topics (1.0 cr)
HORT 5051 - Plant Production II (4.0 cr)
HORT 4141W - Plant Production I [WI] (4.0 cr)
HORT 3002W *{Inactive}*[WI] (3.0 cr)
AGRO 4401 - Plant Genetics and Breeding (4.0 cr)
or HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
HORT 2100 - Agricultural Biochemistry (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)
Take 4 or more credits(s) from the following:
•HORT 1xxx
•HORT 4xxx
•HORT 5xxx

Individualized

Students must submit a course of study in consultation with an adviser to the Department of Horticultural Science Undergraduate Studies Committee at least three semesters before graduation.

Students choose two required courses plus 16 additional credits to total at least 21 credits in consultation with an adviser.

Emphasis Area Requirements
Take 5 or more credits(s) from the following:
•HORT 4401 - Plant Genetics and Breeding (4.0 cr)
or HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
•HORT 2100 - Agricultural Biochemistry (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)
Emphasis Area Credits
Take 16 or more credits(s) from the following:
•HORT 3xxx
•HORT 4xxx
•HORT 5xxx

Landscape Design

49 credits are required.

Emphasis Area Requirements
ARCH 3301 - Drawing for Design in Architecture (3.0 cr)
ARCH 3711W - Environmental Design and the Sociocultural Context [WI] (3.0 cr)
HORT 4021 *{Inactive}*(4.0 cr)
HORT 4061W - Turfgrass Management [WI] (3.0 cr)
LA 1301 - Introduction to Landscape Architecture Drawing [AH] (3.0 cr)
LA 3001 - Understanding and Creating Landscape Space (3.0 cr)
LA 3204 - Holistic Landscape Ecology and Bioregional Practice (3.0 cr)
LA 3413 - Introduction to Landscape Architectural History [HIS, GP] (3.0 cr)
LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
LA 3571 - Landscape Construction: Site Systems and Engineering (3.0 cr)
HORT 4023 *{Inactive}*(4.0 cr)
ARCH 3411W - Architectural History to 1750 [HIS, GP, WI] (3.0 cr)
or ARCH 3412 - Architectural History Since 1750 [HIS, GP] (3.0 cr)

Design Electives
Exceptions must be approved by a faculty adviser.
Take 11 - 15 credits(s) from the following:
•ARCH 4701W - Introduction to Urban Form and Theory [WI] (3.0 cr)
•FR 3501 - Arboriculture: Selection and Maintenance of Trees (3.0 cr)
•FR 4501 - Urban Forest Management: Managing Greenspaces for People (3.0 cr)
•HORT 4015 - Advanced Woody and Herbaceous Plant Topics (1.0 cr)
•HORT 4401 - Plant Genetics and Breeding (4.0 cr)
•HORT 5018 *{Inactive}*(3.0 cr)
•HORT 5023 - Public Garden Management (2.0 cr)
•HORT 5071 - Ecological Restoration (4.0 cr)
•LA 1201 - Learning from the Landscape [AH, DSJ] (3.0 cr)
•LA 1401 - The Designed Environment (3.0 cr)
•LA 3002 - Informants of Creating Landscape Space (3.0 cr)

Landscape Implementation and Management
21 credits are required.

Emphasis Area Requirements
HORT 4021 *{Inactive}*(4.0 cr)
HORT 4061W - Turfgrass Management [WI] (3.0 cr)
HORT 5009 *{Inactive}*(3.0 cr)
HORT 5018 *{Inactive}*(3.0 cr)
AGRO 4401 - Plant Genetics and Breeding (4.0 cr)
or HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
HORT 2100 - Agricultural Biochemistry (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)
Take 3 or more credits(s) from the following:
•FR 3501 - Arboriculture: Selection and Maintenance of Trees (3.0 cr)
•HORT 1xxx
•HORT 3xxx
•HORT 4xxx
•HORT 5xxx

Turfgrass Science
20 credits are required.

Emphasis Area Requirements
HORT 4021 *{Inactive}*(4.0 cr)
HORT 4061W - Turfgrass Management [WI] (3.0 cr)
SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
HORT 4063 - Turfgrass Science (3.0 cr)
HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
or HORT 4401 - Plant Genetics and Breeding (4.0 cr)
HORT 2100 - Agricultural Biochemistry (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used

to fulfill degree program requirements will also fulfill UHP requirements.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Environmental Science B.S.

Soil, Water, & Climate

College of Food, Agricultural and Natural Resource Sciences

- **Students will no longer be accepted into this program after Spring 2006. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 60
- Degree: Bachelor of Science

This major is for students interested in an interdisciplinary science education that prepares them to deal with environmental problems. The basic natural resources of land, air, and water are studied in the context of protecting and sustaining the environment. Students become knowledgeable about environmental issues and the science behind policy decisions.

Students must complete coursework in math and science, economics, humanities, communication, and applied technical aspects of environmental problems. The environmental science core draws courses from atmospheric science, soil science, hydrology, plant science, and geology.

Tracks include soil and water sciences (soil science, wetland science, water quality, and soil and water conservation); environmental monitoring and analysis (land resource analysis, environmental monitoring, and measurement); environmental management (environmental remediation and waste management, land-use management, precision management and information technology); and land and atmospheric sciences (climatology, biochemical cycling).

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Upper division students select one of four sub-plans in the major and an area of emphasis within that sub-plan. Students take 9 credits in their track and an additional 12 credits in their area of emphasis. All required courses must be taken A-F, and a grade of at least C- is required in all professional and area of emphasis courses.

Foundation Courses

BIOL 1009 - General Biology [BIOL] (4.0 cr)
CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)
ESPM 3131 - Environmental Physics (3.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
WRIT 1223 *{Inactive}*(3.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or CHEM 2301 - Organic Chemistry I (3.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Professional Courses
BIOL 2022 - General Botany (3.0 cr)
ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
ESPM 1051 *{Inactive}*[ENVT] (3.0 cr)
ES 1128 *{Inactive}*(1.0 cr)
ESPM 1425 - The Atmosphere [PHYS, ENV] (4.0 cr)
ESPM 3128 *{Inactive}*(1.0 cr)
ESPM 4021W - Problem Solving: Environmental Review [WI] (4.0 cr)
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
ESPM 4128 *{Inactive}*(1.0 cr)
FR 3114 - Hydrology and Watershed Management (3.0 cr)
ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
or GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
Take 2 or more credits(s) from the following:
•ESPM 3111 - Hydrology and Water Quality Field Methods (3.0 cr)
•SOIL 3521 - Soil Judging (1.0 cr)
•SOIL 4511 - Field Study of Soils (2.0 cr)
•SOIL 8110 - Colloquium in Soil Science (1.0 - 3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Environmental Monitoring and Analysis

19-21 credits are required.

Environmental Monitoring and Analysis Core Courses
BIOL 3407 - Ecology (3.0 cr)
ENT 5241 - Ecological Risk Assessment (3.0 cr)
SOIL 4511 - Field Study of Soils (2.0 cr)

Environmental Monitoring and Analysis Focus

Land Resource Analysis
Take 12 or more credits(s) from the following:
•FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
•FR 5412 - Digital Remote Sensing (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
•GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
•ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
or ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)

-OR-

Environmental Monitoring and Measurement
ESPM 4216 - Contaminant Hydrology (2.0 cr)
ESPM 4601 - Soils and Pollution (3.0 cr)
or EEB 5601 - Limnology (3.0 cr)
PUBH 6190 - Environmental Chemistry (3.0 cr)
Take 6 or more credits(s) from the following:
•FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•ESCI 3002 - Climate Change and Human History [ENV] (3.0 cr)
•GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
•PLPA 3002 *{Inactive}*(3.0 cr)
•ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
•SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)

Environmental Management

19-21 credits are required.

Environmental Management Core Courses
ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)
ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
ESPM 4601 - Soils and Pollution (3.0 cr)

Environmental Management Focus

Environmental Remediation and Waste Management
Take 12 or more credits(s) from the following:
•CE 3501 - Environmental Engineering [ENV] (3.0 cr)
•CHEM 2302 - Organic Chemistry II (3.0 cr)
•ESPM 4216 - Contaminant Hydrology (2.0 cr)
•ESPM 5601 - Principles of Waste Management (3.0 cr)
•ENT 5241 - Ecological Risk Assessment (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•PUBH 6190 - Environmental Chemistry (3.0 cr)

-OR-

Land-Use Management
Take 12 or more credits(s) from the following:
•FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•HORT 5071 - Ecological Restoration (4.0 cr)
•LA 3204 - Holistic Landscape Ecology and Bioregional Practice (3.0 cr)
•PA 5013 - Law and Urban Land Use (1.5 cr)
•SOIL 5555 - Wetland Soils (3.0 cr)

-OR-

Precision Management/InformationTechnology
Take 12 or more credits(s) from the following:
•GEOG 5563 - Advanced Geographic Information Science (3.0 cr)
•IDSC 3001 - Information Systems for Business Processes and Management (3.0 cr)
•SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
•SOIL 4111 - Introduction to Precision Agriculture (3.0 cr)

Honors
This is an honors sub-plan.

The elements students must fulfill to complete the College of Agricultural, Food and Environmental Sciences Honors Program are listed below. For most students it comprises two semesters of the Honors Colloquia, an Honors Option, and the Honors Experience. The Honors Option provides an opportunity to explore honors classes from other programs, and is very flexible and can be adapted to many situations and contexts. Registration in honors courses requires admission to the Honors Program and college office approval.

Honors Courses
Students must take at least two semesters of AGRI 1000.
CFAN 1000H *{Inactive}*(2.0 cr)
CFAN 3100H - Honors Experience (2.0 - 3.0 cr)

Individualized
The student chooses at least 21 credits in consultation with their adviser (or the major coordinator). The courses in the emphasis must be specified before the student starts taking them.

Land and Atmospheric Sciences
19-21 credits are required.

Land and Atmospheric Sciences Core Courses
BIOL 3407 - Ecology (3.0 cr)
ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
PLPA 3002 *{Inactive}*(3.0 cr)

Land and Atmospheric Sciences Focus

Climatology Courses
Take 12 or more credits(s) from the following:
•EEB 4611 - Biogeochemical Processes (3.0 cr)
•FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
•FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•ESCI 3002 - Climate Change and Human History [ENV] (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•GEOG 5423 - Climate Models and Modeling (3.0 cr)
•GEOG 5426 - Climatic Variations (3.0 cr)

-OR-

Biogeochemical Cycling Courses
Take 12 or more credits(s) from the following:
•EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
•EEB 4611 - Biogeochemical Processes (3.0 cr)
•FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)

Soil and Water Sciences
19-21 credits are required.

Soil and Water Sciences Courses
ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)
ESPM 4216 - Contaminant Hydrology (2.0 cr)
SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)

Soil and Water Sciences Focus
Students completing the soil science emphasis will be eligible to be licensed as a professional soil scientist.

Soil and Water Conservation
ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
SOIL 4511 - Field Study of Soils (2.0 cr)
Take 6 or more credits(s) from the following:
•ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
•ESPM 4601 - Soils and Pollution (3.0 cr)
•HORT 5071 - Ecological Restoration (4.0 cr)
•SOIL 5555 - Wetland Soils (3.0 cr)

-OR-

Soil Science
ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
SOIL 4511 - Field Study of Soils (2.0 cr)
Take 6 or more credits(s) from the following:
•ESPM 4601 - Soils and Pollution (3.0 cr)
•ESCI 4703 - Glacial Geology (4.0 cr)
•SOIL 3521 - Soil Judging (1.0 cr)
•LAAS 5515 - Soil Formation: Earth Surface Processes and Biogeochemistry (3.0 cr)
•SOIL 5555 - Wetland Soils (3.0 cr)

-OR-

Water Quality
EEB 5601 - Limnology (3.0 cr)
ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
Take 6 or more credits(s) from the following:
•ENT 5361 - Aquatic Insects (4.0 cr)
•ESPM 4601 - Soils and Pollution (3.0 cr)
•FR 5153 - Forest and Wetland Hydrology (3.0 cr)
•ESCI 5108 *{Inactive}*(3.0 cr)
•ESCI 5701 *{Inactive}*(3.0 cr)
•HORT 5071 - Ecological Restoration (4.0 cr)
•PUBH 6190 - Environmental Chemistry (3.0 cr)
•SOIL 5555 - Wetland Soils (3.0 cr)
•WRS 5101 - Water Policy (3.0 cr)

-OR-

Wetland Science

HORT 5071 - Ecological Restoration (4.0 cr)
SOIL 5555 - Wetland Soils (3.0 cr)
Take 6 or more credits(s) from the following:

- EEB 5601 - Limnology (3.0 cr)
- FR 5153 - Forest and Wetland Hydrology (3.0 cr)
- SOIL 4511 - Field Study of Soils (2.0 cr)
- LAAS 5515 - Soil Formation: Earth Surface Processes and Biogeochemistry (3.0 cr)

Twin Cities Campus

Environmental Sciences, Policy and Management B.S.

College of Food, Agri & Natural Resource Sciences

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 46
- This program requires summer terms.
- Degree: Bachelor of Science

The environmental sciences, policy and management (ESPM) major is designed to address the needs posed by the complexity of environmental and renewable resource issues that are faced on a state, national, and global level. This interdisciplinary, environmental major prepares graduates to solve environmental problems from an integrated knowledge base.

The mission of the ESPM major is to

* improve the basis for environmental decision-making by integrating physical, biological, and social sciences with policy analysis and management;

* educate the next generation of environmental professionals and leaders;

* foster innovative approaches for the education of environmental professionals;

* facilitate science/social science/policy linkages within and beyond the University.

Students complete a set of common "integrated core" courses that focus on integrated problem solving using environmental sciences, policy, ethics, management models, and communication theory. Students also incorporate classroom and fieldwork.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All students complete Required Courses below and choose one of the following ESPM tracks: conservation and resource management (CRM); corporate environmental management (CEM); environmental education and communication (EEC); policy, planning, law and society (PPLS); and environmental science (ES).

Students are strongly encouraged to have an international experience before graduation. Courses completed during an international experience (study, work, volunteer, research) can meet program requirements, liberal education requirements, and/or electives. Discussion with an adviser prior to commencing an international experience is required to plan how courses meet requirements in the ESPM major.

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C-.

Communication Skills

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Biological Sciences

BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)

Integrated ESPM Core
ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
ESPM 2021 - Environmental Sciences: Integrated Problem Solving (3.0 cr)
ESPM 3000 - Seminar on Current Issues for ESPM (1.0 cr)
ESPM 1001 - Freshmen Orientation to Environmental Sciences, Policy, and Management (1.0 cr)
or ESPM 1002 - Transfer Orientation Seminar (1.0 cr)
ESPM 4021W - Problem Solving: Environmental Review [WI] (4.0 cr)
or ESPM 4041W - Problem Solving for Environmental Change [WI] (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Corporate Environmental Management

The CEM track provides graduates with the fundamental skills to systematically determine the environmental burdens associated with a firm's products or manufacturing processes and to identify opportunities that generate value from environmental risk reduction, regulatory compliance programs, and other alternatives for improving environmental performance. The CEM track prepares students for positions in growing environmental, health, and safety organizations housed within private enterprises, consultancies, and governmental institutions, as well as for graduate study in business, public policy, environmental sciences, and industrial ecology.

Student experiences within this track focus on analytical tools; the business, legal, regulatory, and ethical framework in which industrial firms operate; physical, chemical, and biological mechanisms associated with industrial emissions; techniques used to reduce the environmental impacts of industrial activity; and effective communication.

Social Sciences
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
or ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)
Prerequisite CEM Courses
ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MGMT 3001 - Fundamentals of Management (3.0 cr)
PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
CEM Track Required Courses
CE 3501 - Environmental Engineering [ENV] (3.0 cr)
ESPM 3602 - Regulations and Corporate Environmental Management (3.0 cr)
ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
ESPM 3606W - Pollution Prevention: Principles, Technologies, and Practices [WI] (3.0 cr)
ESPM 5019 - Business, Natural Environment, and Global Economy (2.0 cr)
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
or ESPM 3111 - Hydrology and Water Quality Field Methods (3.0 cr)
or Appropriate study abroad
or FR 2101 - Identifying Forest Plants (1.0 cr)
with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
with FR 2104 - Measuring Forest Resources (1.0 cr)
Track Contract Courses
Take 12 or more credits(s) from the following:
•ESPM 2041 - Natural Resources Consumption and Sustainability [GP] (3.0 cr)
•ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)

•ESPM 3605 - Recycling: Extending Raw Materials [TS] (3.0 cr)
•ESPM 4216 - Contaminant Hydrology (2.0 cr)
•ESPM 4607 - Industrial Biotechnology and the Environment (3.0 cr)
•ESPM 4608 - Bioremediation (3.0 cr)
•ESPM 4609 - Air Pollution Impacts, Management, and Ethical Challenges [CIV] (3.0 cr)
•BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
•BBE 4535 - Assessment and Diagnosis of Impaired Waters (3.0 cr)
•AFEE 3361 - World Development Problems [GP] (3.0 cr)
•APEC 3611W - Environmental and Natural Resource Economics [ENV, WI] (3.0 cr)

Conservation and Resource Management

Students in the CRM track are involved in what Thoreau suggested was "environmental wisdom," or the ability to make effective decisions about the environment by synthesizing natural and human created facts and information. Students integrate this understanding with diverse economic and social insight to make effective decisions for the environment and society.

This track prepares students for technical support, operational, and managerial positions in diverse aspects of resource conservation and management with local, state, and federal agencies and the private sector. This track also prepares students for graduate study in a wide range of areas.

Students solve problems in field settings and communicate their understanding, synthesis, and decision-making to diverse audiences. They gain experience in the actual implementation of decisions. Students may also develop special skills through electives (e.g., geographic information systems, geospatial analysis).

Social Sciences
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
or ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)
CRM Core Courses
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
BIOL 2022 - General Botany (3.0 cr)
or BIOL 2012 - General Zoology (4.0 cr)
or ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
or ESPM 3101 - Conservation of Plant Biodiversity (3.0 cr)
or ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
or FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
or FR 3104 - Forest Ecology (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
or BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
SOIL 1125 - The Soil Resource [ENV] (4.0 cr)
or SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
Internship
Requires approval and supervision by faculty adviser from track.
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
CRM Contract Courses
Courses taken to meet other requirements cannot be double counted here, nor can courses count for multiple groups. Course selections from contract area must be made through a faculty adviser. A contract is required.
Take 36 or more credits(s) including 4 or more sub-requirements(s) from the following:
•**Conservation and Management**
•Take 10 or more credits(s) from the following:
•ESPM 3101 - Conservation of Plant Biodiversity (3.0 cr)
•ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
•ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)

- ESPM 3575 - Wetlands Conservation (3.0 cr)
- ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
- ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
- ESPM 4216 - Contaminant Hydrology (2.0 cr)
- ESPM 4601 - Soils and Pollution (3.0 cr)
- ENT 3925 - Insects, Aquatic Habitats, and Pollution (3.0 cr)
- EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
- FR 3104 - Forest Ecology (4.0 cr)
- FR 3114 - Hydrology and Watershed Management (3.0 cr)
- FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
- FR 5153 - Forest and Wetland Hydrology (3.0 cr)
- FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
- FW 4103 - Principles of Wildlife Management (3.0 cr)
- FW 5604W - Fisheries Ecology and Management [WI] (3.0 cr)
- HORT 5071 - Ecological Restoration (4.0 cr)
- SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
- SOIL 5555 - Wetland Soils (3.0 cr)

- Take 7 or more credits(s) from the following:
  - ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
  - ESPM 4021W - Problem Solving: Environmental Review [WI] (4.0 cr)
  - ESPM 4295W - GIS in Environmental Science and Management [WI] (4.0 cr)
  - FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
  - FR 3218 - Measuring and Modeling Forests (3.0 cr)
  - FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
  - FR 5412 - Digital Remote Sensing (3.0 cr)
  - FW 5051 - Analysis of Populations (4.0 cr)
  - GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
  - GIS 5571 - ArcGIS I (3.0 cr)
- Take 1 or more course(s) totaling 2 - 3 credits(s) from the following:
  - ESPM 3031 - Applied Global Positioning Systems for Geographic Information Systems (3.0 cr)
  - ESPM 3111 - Hydrology and Water Quality Field Methods (3.0 cr)
  - PBIO 4321 - Minnesota Flora (3.0 cr)
  - SOIL 4093 - Directed Study (1.0 - 7.0 cr)
  - SOIL 4511 - Field Study of Soils (2.0 cr)
  - FR 2101 - Identifying Forest Plants (1.0 cr)
    with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
    with FR 2104 - Measuring Forest Resources (1.0 cr)
- Take 3 or more credits(s) from the following:
  - ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
  - ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
  - ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)
  - ESPM 3602 - Regulations and Corporate Environmental Management (3.0 cr)
  - ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
  - ESPM 4242 - Methods for Environmental and Natural Resource Policy Analysis (3.0 cr)

Environmental Education & Communication

Students in the EEC track gain a solid base of knowledge in the environmental sciences, environmental ethics, and the social context of environmental issues, and they develop a practical set of skills for teaching effectively in informal settings and for communicating clearly in written, oral, and electronic forms. This track prepares students to work at government agencies, nature centers, parks, non-governmental organizations, and similar institutions, and is appropriate for students who wish to gain a broad understanding of environmental issues and the choices humans can make to mitigate unwanted impacts of human behavior on the environment.

Students may specialize in a content area through a minor, study abroad experience in ESPM topics, and/or a student designed content area. Students are encouraged to make choices that strengthen their expertise in an area and/or provide comparative understanding from another culture or discipline.

Courses listed in the track but not taken are good possibilities for use in a content area, as are courses listed below. ESPM students should see their adviser for a list of minors.

Mathematical Thinking

STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or ESPM 3012 Statistical Methods. Take only if your CLE mathematical thinking requirement is satisfied by another course.

Physical Science

CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)

CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)

Social Sciences

ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
or ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)

Education and Communication

ESPM 2401 - Environmental Education/Interpretation (3.0 cr)
COMM 3441 - Introduction to Organizational Communication (3.0 cr)
or COMM 3451W - Intercultural Communication: Theory and Practice [IP, WI] (3.0 cr)
or ENGL 3501 - Public Discourse: Coming to Terms With the Environment [LITR, ENV] (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
or WRIT 3221W - Communication Modes and Methods [WI] (4.0 cr)
or WRIT 3701W - Rhetorical Theory for Writing Studies [WI] (4.0 cr)
or WRIT 5664 - Science Writing for Popular Audiences (3.0 cr)
ESPM 4811 - Environmental Interpretation (3.0 cr)
or CI 5534 - Studies in Science Education (3.0 cr)
or CI 5537 - Principles of Environmental Education (3.0 cr)
or CI 5747 - Global and Environmental Education: Content and Practice (3.0 cr)
or REC 5301 - Wilderness and Adventure Education (4.0 cr)
or REC 5311 - Programming Outdoor and Environmental Education (3.0 cr)
EPSY 5243 - Principles and Methods of Evaluation (3.0 cr)
or OLPD 5501 - Principles and Methods of Evaluation (3.0 cr)
or REC 3281 - Research and Evaluation in Recreation, Park, and Leisure Studies (4.0 cr)
or RRM 5259 - Visitor Behavior Analysis (3.0 cr)

Human Dimensions

ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
or PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
Take 2 or more course(s) from the following:
•ESPM 2041 - Natural Resources Consumption and Sustainability [GP] (3.0 cr)
•ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
•ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
•GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
•GEOG 3376 - Political Ecology of North America [ENV] (3.0 cr)
•HSCI 3244 - History of Ecology and Environmentalism [HIS, ENV] (3.0 cr)
•SOC 3451W - Cities and Social Change [WI] (3.0 cr)
•SOC 4311 - Race, Class, and the Politics of Nature (3.0 cr)
•WRIT 3315 - Writing on Issues of Land and the Environment [AH, DSJ] (3.0 cr)
•CSCL 3361 - Visions of Nature: The Natural World and Political Thought [ENV] (3.0 cr)

Natural Sciences

Ecology

BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or EEB 3001 - Ecology and Society [ENV] (3.0 cr)
or FR 3104 - Forest Ecology (4.0 cr)
or FW 2003 - Introduction to Marine Biology (3.0 cr)

Physical Environment

ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
or BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
or EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
or EEB 5601 - Limnology (3.0 cr)
or FR 3114 - Hydrology and Watershed Management (3.0 cr)
or ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
or PHYS 1001W - Energy and the Environment [PHYS, ENV, WI] (4.0 cr)
or SOIL 1125 - The Soil Resource [ENV] (4.0 cr)

Organismal Biology

Take 3 or more course(s) including 2 or more sub-requirements(s) from the following:
•**Plant**
•Take 1 or more course(s) from the following:
•BIOL 2022 - General Botany (3.0 cr)
•FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)
•**Animal**

•Take 1 or more course(s) from the following:
•BIOL 2012 - General Zoology (4.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•ENT 1005 - Insect Biology [BIOL] (4.0 cr)
•FW 4101 - Herpetology (4.0 cr)
•FW 4136 - Ichthyology (4.0 cr)

Complex Human and Natural Systems
ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
or EEB 5146 - Science and Policy of Global Environmental Change (3.0 cr)
or FR 4501 - Urban Forest Management: Managing Greenspaces for People (3.0 cr)
or FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
or FW 2001 - Introduction to Fisheries, Wildlife, and Conservation Biology (3.0 cr)
or FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
or HORT 5071 - Ecological Restoration (4.0 cr)
or LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
or URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)

Field Experience
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
or FR 2101 - Identifying Forest Plants (1.0 cr)
with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
with FR 2104 - Measuring Forest Resources (1.0 cr)

Environmental Science

The ES track focuses on the application and integration of basic and applied sciences to solve complex environmental problems. Students can earn professional licenses and certification in several areas and will be qualified to work as soil scientists, hydrologists, water quality and wetland ecology scientists, environmental remediation scientists, climatologists, and atmospheric scientists. Graduates find jobs with environmental regulatory agencies, private consulting firms, and nonprofit organizations. This track provides a diverse basic and applied science background that also prepares students for scientific research through advanced graduate studies.

Students in this track use an understanding of biology, chemistry, physics, and mathematics to develop a broad knowledge base in soil, hydrologic, atmospheric, and biological sciences. Students study the interaction between science and the functioning of urban, forested, and agricultural lands, as well as hydrologic, atmospheric, soil, and wetland resources.

Social Sciences
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
or ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)

Additional Basic Science and Math Courses
ESPM 3131 - Environmental Physics (3.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or BIOL 2012 - General Zoology (4.0 cr)
or BIOL 2022 - General Botany (3.0 cr)
ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Applied Sciences and Technology Courses
ESPM 1425 - The Atmosphere [PHYS, ENV] (4.0 cr)
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
FR 3114 - Hydrology and Watershed Management (3.0 cr)
ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
or GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
or BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)

or FR 3104 - Forest Ecology (4.0 cr)
Take 2 or more credits(s) from the following:
- ESPM 3031 - Applied Global Positioning Systems for Geographic Information Systems (3.0 cr)
- ESPM 3111 - Hydrology and Water Quality Field Methods (3.0 cr)
- PBIO 4321 - Minnesota Flora (3.0 cr)
- SOIL 3521 - Soil Judging (1.0 cr)
- SOIL 4093 - Directed Study (1.0 - 7.0 cr)
- SOIL 4511 - Field Study of Soils (2.0 cr)
- FR 2101 - Identifying Forest Plants (1.0 cr)
  with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
  with FR 2104 - Measuring Forest Resources (1.0 cr)

ES Contract Courses

Students must develop a contract with their faculty adviser to create an area of specialization. All track electives must be upper division. Depending on the selected courses, students have the opportunity to become certified or licensed as a professional soil scientist, hydrologist, wetland delineator, erosion control specialist, or site evaluator for individual sewage treatment system. Below are sample courses that could be taken to complete a contract; it is not a comprehensive list.

Take 15 - 21 credits(s) from the following:
- Take 0 - 21 credits(s) from the following:
  - ESPM 3221 - Soil Conservation and Land-Use Management (3.0 cr)
  - ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
  - ESCI 4703 - Glacial Geology (4.0 cr)
  - SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)
  - SOIL 3521 - Soil Judging (1.0 cr)
  - SOIL 4511 - Field Study of Soils (2.0 cr)
  - LAAS 5515 - Soil Formation: Earth Surface Processes and Biogeochemistry (3.0 cr)
  - SOIL 5555 - Wetland Soils (3.0 cr)
- Take 0 - 21 credits(s) from the following:
  - ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
  - ESPM 4216 - Contaminant Hydrology (2.0 cr)
  - EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
  - EEB 5605 - Limnology Laboratory (2.0 cr)
  - FR 5153 - Forest and Wetland Hydrology (3.0 cr)
  - FW 5604W - Fisheries Ecology and Management [WI] (3.0 cr)
  - PUBH 6190 - Environmental Chemistry (3.0 cr)
  - WRS 5101 - Water Policy (3.0 cr)
- Take 0 - 21 credits(s) from the following:
  - ESPM 3612W - Soil and Environmental Biology [WI] (3.0 cr)
  - ESPM 5402 - Biometeorology (3.0 cr)
  - AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
  - AGRO 4505 - Biology, Ecology, and Management of Invasive Plants (3.0 cr)
  - AGRO 4605 - Management Strategies for Crop Production (3.0 cr)
  - AGRO 5321 - Ecology of Agricultural Systems (3.0 cr)
  - BIOL 3002 - Plant Biology: Function (2.0 cr)
  - BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)
  - BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
  - EEB 3963 - Modeling Nature and the Nature of Modeling (3.0 cr)
  - EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
  - EEB 4611 - Biogeochemical Processes (3.0 cr)
  - ENT 5361 - Aquatic Insects (4.0 cr)
  - FR 3104 - Forest Ecology (4.0 cr)
  - FR 3203 - Forest Fire and Disturbance Ecology (3.0 cr)
  - FR 3204 - Landscape Ecology and Management (3.0 cr)
  - FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
  - FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
  - FW 3565 - Fisheries and Wildlife Ecology and Management: Field Trip (2.0 cr)
  - HORT 5071 - Ecological Restoration (4.0 cr)
  - LA 3204 - Holistic Landscape Ecology and Bioregional Practice (3.0 cr)
  - MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
- Take 0 - 21 credits(s) from the following:
  - BIOL 3407 - Ecology (3.0 cr)
    or BIOL 3408W - Ecology [WI] (3.0 cr)
- Take 0 - 21 credits(s) from the following:
  - ESPM 3425 - Atmospheric Composition: From Smog to Climate Change (3.0 cr)
  - ESPM 5402 - Biometeorology (3.0 cr)
  - ESCI 3002 - Climate Change and Human History [ENV] (3.0 cr)

- GEOG 5423 - Climate Models and Modeling (3.0 cr)
- GEOG 5426 - Climatic Variations (3.0 cr)
- GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
- ME 5115 - Air Quality and Air Pollution Control (4.0 cr)

- Take 0 - 21 credits(s) from the following:
  - ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
  - ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
  - ESPM 4216 - Contaminant Hydrology (2.0 cr)
  - ESPM 4295W - GIS in Environmental Science and Management [WI] (4.0 cr)
  - ESPM 4601 - Soils and Pollution (3.0 cr)
  - ESPM 5601 - Principles of Waste Management (3.0 cr)
  - CE 3501 - Environmental Engineering [ENV] (3.0 cr)
  - CHEM 2301 - Organic Chemistry I (3.0 cr)
  - ENT 5241 - Ecological Risk Assessment (3.0 cr)
  - FR 3218 - Measuring and Modeling Forests (3.0 cr)
  - FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
  - FR 5412 - Digital Remote Sensing (3.0 cr)
  - GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
  - GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
  - GEOG 5563 - Advanced Geographic Information Science (3.0 cr)
  - GIS 5571 - ArcGIS I (3.0 cr)
  - PUBH 6103 - Exposure to Environmental Hazards (2.0 cr)
  - PUBH 6104 - Environmental Health Effects: Introduction to Toxicology (2.0 cr)
  - PUBH 6105 - Environmental and Occupational Health Policy (2.0 cr)
  - PUBH 6132 - Air, Water, and Health (2.0 cr)
  - PUBH 6171 - Exposure Assessment for Air Contaminants (3.0 cr)
  - PUBH 6175 - Environmental Measurements Laboratory (2.0 cr)

Policy, Planning, Law and Society

The PPLS track focuses on developing understanding and problem-solving skills germane to the interaction between human and natural systems. Students will be well prepared for policy development and analysis, strategy development, and decision-making in a range of positions and institutional settings. Example positions include those as a policy analyst, community planner, social researcher, or lawyer in public agencies, with legislative bodies, consulting firms, and conservation organizations. This track also prepares students for graduate study in policy, planning, and law programs.

Students study concepts, issues, and problem solving approaches that address the policy, legal, economic, political, planning and sociological aspects of environment and natural resource management. This study includes ethics and conflict management. The track further emphasizes an interdisciplinary approach for examining problems, such as sustainable land use planning, resource conservation and management, law, and environmental protection at a range of political levels and spatial scales and developing effective and innovative solutions. Students develop skill in integrating knowledge from the physical, biological, and social sciences to develop policy and planning alternatives and appropriate strategies to provide real solutions to complex problems.

Physical Science

- CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
- CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)

PPLS Core Courses

- ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
- ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
- ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)
- ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
  - ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
  - FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
  - RRM 4232W - Managing Recreational Lands [WI] (4.0 cr)
  - ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
    - *or* ESPM 4021W - Problem Solving: Environmental Review [WI] (4.0 cr)
    - *or* ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
    - *or* BBE 2201 - Renewable Energy and the Environment [TS] (3.0 cr)
    - *or* FR 3104 - Forest Ecology (4.0 cr)
    - *or* FR 3114 - Hydrology and Watershed Management (3.0 cr)
    - *or* FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
    - *or* FR 5146 - Science and Policy of Global Environmental Change (3.0 cr)
    - *or* SOIL 1125 - The Soil Resource [ENV] (4.0 cr)
    - *or* SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
- ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
  - *or* STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
ESPM 3251 - Natural Resources in Sustainable International Development [GP] (3.0 cr)
ESPM 4242 - Methods for Environmental and Natural Resource Policy Analysis (3.0 cr)
ESPM 4256 - Natural Resource Law and the Management of Public Lands and Waters (3.0 cr)
Field Session Options
ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
or **Cloquet Field Session**
FR 2101 - Identifying Forest Plants (1.0 cr)
with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
with FR 2104 - Measuring Forest Resources (1.0 cr)

PPLS Contract Courses

Students must specialize in a content area to strengthen their expertise, through a minor, appropriate study abroad experience, and/or a student designed area. Courses listed in the track but not taken are good choices for use in a content area, as are courses listed below. PPLS students should see their adviser for a list of appropriate minors. Submit a contract for 12 credits of 3XXX or above credits, completed through prior consultation with your faculty adviser.

Take 12 or more credits(s) from the following:

•ESPM 3xxx
•AGRO 3xxx
•APEC 3xxx
•BBE 3xxx
•COMM 3xxx
•ECON 3xxx
•FR 3xxx
•FW 3xxx
•GEOG 3xxx
•GLOS 3xxx
•MGMT 3xxx
•POL 3xxx
•RRM 3xxx
•SOIL 3xxx
•WRIT 3xxx
•WRS 3xxx

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Fisheries and Wildlife B.S.

Fisheries, Wildlife, and Conservation Biology

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 85 to 92
- This program requires summer terms.
- Degree: Bachelor of Science

The fisheries and wildlife curriculum gives students a broad science background emphasizing biological and environmental sciences and other coursework needed for careers in fisheries, wildlife, conservation biology, and other natural resource and environmental fields. Graduates are prepared to research, plan, and implement the management, protection, and enhancement of fisheries and aquatic resources, wildlife resources, and biological diversity. Graduates find employment as fisheries and wildlife scientists and managers, naturalists, zoo biologists, environmental biologists, environmental educators, and other natural resource professionals. The program also provides students with the fundamental science background needed to enter a wide variety of graduate programs in biological and natural resource sciences as well as professional programs in veterinary medicine, environmental law, and environmental education.

Students select an area of specialization, usually by the end of the sophomore year. Areas of specialization include conservation biology, fisheries, and wildlife. Although no computer course is required, students are expected to be computer literate and competent using word processing, spreadsheet, and email software.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

After completing a core curriculum that includes liberal education, communications, basic science, mathematics, and an orientation to the fields of fisheries, wildlife, and conservation biology, students complete additional credits in one of three areas of specialization: fisheries, wildlife, or conservation biology. Some of the core curriculum courses also fulfill diversified core and designated theme requirements. Electives to complete the required 120 credits are chosen in consultation with a program adviser.

Students may also fulfill the minimum requirements for admission to the University's College of Veterinary Medicine and other colleges of veterinary medicine by completing a bachelor's degree in fisheries and wildlife within any of the three areas of specialization.

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Communication Skills

Take 1 or more course(s) from the following:

- COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
- WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
- WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Mathematical Thinking

Take 1 or more course(s) from the following:

- MATH 1142 - Short Calculus [MATH] (4.0 cr)
- MATH 1271 - Calculus I [MATH] (4.0 cr)

Take 1 or more course(s) from the following:
- FW 4001 - Biometry [WI] (4.0 cr)
- ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)

Chemical, Biological, and Physical Sciences
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOL 2012 - General Zoology (4.0 cr)
GCD 3022 - Genetics (3.0 cr)
Take 1 or more course(s) from the following:
- BIOL 3407 - Ecology (3.0 cr)
- BIOL 3408W - Ecology [WI] (3.0 cr)
- BIOL 3807 - Ecology (4.0 cr)

Take 1 or more course(s) from the following:
- PHYS 1001W - Energy and the Environment [PHYS, ENV, WI] (4.0 cr)
- PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
- PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)

Fisheries, Wildlife, and Conservation Biology Courses
FW 1001 - Orientation in Fisheries, Wildlife, and Conservation Biology (1.0 cr)
FW 4106 - Important Plants in Fisheries and Wildlife Habitats (1.0 cr)
FW 4108 - Field Methods in Research and Conservation of Vertebrate Populations (3.0 cr)
FW 4291 - Independent Study: Fisheries (1.0 - 5.0 cr)
or FW 4391 - Independent Study: Wildlife (1.0 - 5.0 cr)
or FW 3565 - Fisheries and Wildlife Ecology and Management: Field Trip (2.0 cr)
or FW 4701 - Fisheries and Wildlife Problem Solving (2.0 cr)
or FW 5625 - Wildlife Handling and Immobilization for Research and Management (2.0 cr)
or ESPM 4096 - Professional Experience Program: Internship (1.0 cr)
or 2nd field course

Social Science and Humanities
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
or APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Conservation Biology

The conservation biology specialization is for students interested in careers dealing with a broad range of conservation issues in aquatic or terrestrial habitats. Positions typically focus on protection of endangered species and management for biodiversity. Careers as environmental educators or naturalists are also options.

All required courses in the specialization must be taken A-F and completed with a grade of at least C-.

Human Dimensions
Take 3 or more course(s) totaling 9 or more credits(s) from the following:
- ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
- ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
- ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
- ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
- ESPM 3251 - Natural Resources in Sustainable International Development [GP] (3.0 cr)
- ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)
- SUST 3003 - Sustainable People, Sustainable Planet [ENV] (3.0 cr)

Animals and Plants
Take 2 or more course(s) from the following:
- FW 2003 - Introduction to Marine Biology (3.0 cr)
- FW 4136 - Ichthyology (4.0 cr)

- FW 4101 - Herpetology (4.0 cr)
- EEB 4129 - Mammalogy (4.0 cr)
- EEB 4134 - Introduction to Ornithology (4.0 cr)
- EEB 4839 - Field Studies in Mammalogy (4.0 cr)
- EEB 4844 - Field Ornithology (4.0 cr)
- ENT 5021 - Insect Taxonomy and Phylogeny (4.0 cr)
- ENT 5361 - Aquatic Insects (4.0 cr)
- Take 1 or more course(s) from the following:
  - FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
  - PBIO 4321 - Minnesota Flora (3.0 cr)
  - PBIO 4511 - Flowering Plant Diversity (3.0 cr)

Community and Ecosystem Ecology

FR 3204 - Landscape Ecology and Management (3.0 cr)
Take 1 or more course(s) from the following:
- FR 3104 - Forest Ecology (4.0 cr)
- ESPM 3575 - Wetlands Conservation (3.0 cr)
- EEB 3603 - Science, Protection, and Management of Aquatic Environments (3.0 cr)
- EEB 4014 *{Inactive}*(3.0 cr)
- EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)

Conservation Biology

FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
Take 1 or more course(s) from the following:
- FW 4103 - Principles of Wildlife Management (3.0 cr)
- FW 5051 - Analysis of Populations (4.0 cr)
- FW 5601 - Fisheries Population Analysis (3.0 cr)
- FW 5603W - Habitats and Regulation of Wildlife [WI] (3.0 cr)
- FW 5604W - Fisheries Ecology and Management [WI] (3.0 cr)

Fisheries

The fisheries area of specialization is for students who wish to pursue careers in fisheries and aquatic resource science, management, and administration; fish hatchery management; and aquaculture, aquatic education, and aquatic environmental assessment. The curriculum meets the education criteria for the Certified Fisheries Professional designation established by the American Fisheries Society, the major professional organization for fisheries scientists and managers in North America.

All required courses in the specialization must be taken A-F and completed with a grade of at least C-.

Human Dimensions

Take 2 or more course(s) totaling 6 or more credits(s) from the following:
- ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
- ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
- ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
- ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
- ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)

Animals and Plants

FW 4136 - Ichthyology (4.0 cr)
FW 4401 - Fish Physiology and Behavior (2.0 cr)
Take 1 or more course(s) from the following:
- FW 2003 - Introduction to Marine Biology (3.0 cr)
- FW 4101 - Herpetology (4.0 cr)
- ENT 5021 - Insect Taxonomy and Phylogeny (4.0 cr)
- ENT 5361 - Aquatic Insects (4.0 cr)

Community and Ecosystem Ecology

EEB 5601 - Limnology (3.0 cr)
Take 1 or more course(s) from the following:
- FR 3114 - Hydrology and Watershed Management (3.0 cr)
- FR 3204 - Landscape Ecology and Management (3.0 cr)
- ESPM 3575 - Wetlands Conservation (3.0 cr)
- ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
- EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)

Fisheries

FW 5601 - Fisheries Population Analysis (3.0 cr)
FW 5604W - Fisheries Ecology and Management [WI] (3.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or CHEM 2101 - Introductory Analytical Chemistry Lecture (3.0 cr)
or CHEM 2301 - Organic Chemistry I (3.0 cr)

Wildlife

The wildlife specialization is for students who wish to pursue careers in wildlife science, management, and administration; zoo biology; terrestrial ecology; environmental assessment; and education. With proper selection of electives, students can meet the education criteria for the Certified Wildlife Biologist designation established by the Wildlife Society, the major professional organization for wildlife scientists and managers in North America.

All required courses in the specialization must be taken A-F and completed with a grade of at least C-.

Human Dimensions
Take 2 or more course(s) from the following:
•ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
•ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
•ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
•ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
•ESPM 3271 - Environmental Policy, Law, and Human Behavior [CIV, SOCS] (3.0 cr)

Animal and Plants
Take 2 or more course(s) from the following:
•FW 4101 - Herpetology (4.0 cr)
•EEB 4129 - Mammalogy (4.0 cr)
•EEB 4134 - Introduction to Ornithology (4.0 cr)
•EEB 4839 - Field Studies in Mammalogy (4.0 cr)
•EEB 4844 - Field Ornithology (4.0 cr)
Take 1 or more course(s) from the following:
•FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
•PBIO 4321 - Minnesota Flora (3.0 cr)
•PBIO 4511 - Flowering Plant Diversity (3.0 cr)

Community and Ecosystem Ecology
Take 1 or more course(s) totaling 3 or more credits(s) from the following:
•FR 3204 - Landscape Ecology and Management (3.0 cr)
•FR 3104 - Forest Ecology (4.0 cr)
•ESPM 3575 - Wetlands Conservation (3.0 cr)
•EEB 4014 *{Inactive}*(3.0 cr)
•EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)

Wildlife
FW 4103 - Principles of Wildlife Management (3.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
FW 5051 - Analysis of Populations (4.0 cr)
FW 5603W - Habitats and Regulation of Wildlife [WI] (3.0 cr)

Pre-Veterinary Medicine

This sub-plan is optional and does not fulfill the sub-plan requirement for this program.

The doctor of veterinary medicine degree (D.V.M.) is a rigorous four-year professional program preceded by three to four years of pre-professional study. Although a bachelor's degree is not required for admission to the D.V.M. program, approximately 70 percent of the students entering the program each year have completed their bachelor's degree. Fisheries and wildlife is one of the primary college majors at the University of Minnesota that offers a pre-veterinary program.

The following courses are required in addition to the fisheries and wildlife core requirements and courses in one of three areas of specialization. These courses may be substituted for the "suggested courses" in the areas of specialization.

Required Courses
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)

or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

Other Recommended Courses

The following courses are not required to complete the pre-vet requirements.
ANSC 1101 - Introductory Animal Science (4.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
FW 4103 - Principles of Wildlife Management (3.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
ESPM 3575 - Wetlands Conservation (3.0 cr)
FW 5603W - Habitats and Regulation of Wildlife [WI] (3.0 cr)
EEB 4129 - Mammalogy (4.0 cr)
ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
FW 5051 - Analysis of Populations (4.0 cr)
EEB 4134 - Introduction to Ornithology (4.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Food Science B.S.

Food Science & Nutrition

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 87 to 100
- Degree: Bachelor of Science

Food science applies chemistry, microbiology, and engineering to the science and technology of making foods.
Chemistry--because foods undergo chemical reactions when they are heated, frozen, mixed with each other, and stored.
Microbiology--because many foods are made by microorganisms (e.g., bread, cheese, yogurt, sauerkraut, tempeh), and because microorganisms cause extensive, rapid, and often dangerous spoilage.
Physics and engineering--because foods must be constructed, moved through the factory, made safe, and distributed intact to the consumer.
Food science involves creating new food products and making current products more stable, nutritious, convenient, reliable, and safe.
The food science program is offered through the College of Food, Agricultural and Natural Resource Sciences.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Foundation Courses

Students must take either MATH 1142 or MATH 1271 & MATH 1272, as well as BIOC 3021 or BIOC 4331 & BIOC 4332.
BIOL 1009 - General Biology [BIOL] (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
BIOC 4332 - Biochemistry II: Molecular Mechanisms of Signal Transduction and Gene Expression (4.0 cr)
FSCN 2021 - Introductory Microbiology (4.0 cr)
or VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)
BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)

Professional Courses
BBE 4744 - Engineering Principles for Biological Scientists (4.0 cr)
FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
FSCN 1112 - Principles of Nutrition (3.0 cr)
FSCN 3102 - Introduction to Food Science (3.0 cr)
FSCN 4121 - Food Microbiology (3.0 cr)
FSCN 4122 - Food Fermentations and Biotechnology (2.0 cr)
FSCN 4131 - Food Quality (3.0 cr)
FSCN 4312W - Food Analysis [WI] (4.0 cr)
FSCN 4332 - Food Processing Operations (3.0 cr)
FSCN 4311 - Chemical Reactions in Food Systems (2.0 cr)
FSCN 4349 - Food Science Capstone (2.0 cr)
FSCN 4112 - Food Chemistry and Functional Foods (3.0 cr)

Communication
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or AFEE 3221 - Communication for Agriculture, Food, and the Environment (3.0 cr)

Professional Courses

Internship, UROP, or Study Abroad Experience
FSCN 4096 - Professional Experience Program: Internship (1.0 - 4.0 cr)
or UROP research project
or Study abroad for one semester

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Forest Resources B.S.

Forest Resources

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 120
- This program requires summer terms.
- Degree: Bachelor of Science

The forest resources curriculum prepares students to plan, implement, and research the management, protection, and sustainable use of forest and related resources and environments, including timber, water, wildlife, recreation, and aesthetic resources. The curriculum provides a unique integration of the physical, biological, and social sciences with managerial sciences and policy, field skill development, and technologies for measuring and monitoring natural resources. Students are also trained in problem solving approaches to address specific local, regional, and global issues. Students select one of two tracks: 1) forest ecosystem management and conservation and 2) urban and community forestry. Students should choose one of these tracks early in their college careers. A minor is also available.

Graduates find positions as foresters, urban foresters, land and water resource managers, conservationists, researchers, habitat managers, ecologists, geographic information systems specialists, resource analysts/consultants, silviculture specialists, nursery managers, land acquisition specialists, environmental planners, and educators. Principal employers are federal, state and local forestry, wildlife, parks, conservation and related natural resource agencies; forest products industry companies; landowner organizations; consulting firms; and nongovernmental conservation organizations and international development agencies.

Additionally, the curriculum provides excellent preparation in the fundamental and applied sciences that is essential for graduate study and careers in research and teaching.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Communication Skills

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Mathematical Thinking

ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
MATH 1151 - Precalculus II [MATH] (3.0 cr)

Physical and Biological Sciences

BIOL 2022 - General Botany (3.0 cr)
BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
or SOIL 1125 - The Soil Resource [ENV] (4.0 cr)

Chemistry
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Social Sciences
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)

Professional Courses
FR 1001 - Orientation and Information Systems (1.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
RRM 4232W - Managing Recreational Lands [WI] (4.0 cr)
FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
FR 3104 - Forest Ecology (4.0 cr)
FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
Field training in assessment and biology of forests courses are taught at the Cloquet Forestry Ctr
FR 2101 - Identifying Forest Plants (1.0 cr)
with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
with FR 2104 - Measuring Forest Resources (1.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Forest Ecosystem Management and Conservation

Students pursuing the Forest Ecosystem Management and Conservation track learn the principles, practices, and techniques of forest and related resource management. The track prepares students to become directly involved in forest ecosystem management or further specializations such as resource analysis, conservation planning, timber harvesting, forest protection, or policy analysis. Principal employers are federal, state and county forestry, wildlife, and conservation agencies; forest products companies; consulting firms; international agencies; and nongovernmental conservation organizations. Successful completion of track course work qualifies a student for the Society of American Forester's Candidate Certified Forester program.

All required courses in this track must be taken A-F and completed with a grade of at least C-.

Forest Ecosystem Management and Conservation Core
FR 3114 - Hydrology and Watershed Management (3.0 cr)
FR 3218 - Measuring and Modeling Forests (3.0 cr)
FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
FR 3431 - Timber Harvesting and Road Planning (2.0 cr)
FR 3471 - Forest Planning and Management (3.0 cr)
FR 5413 - Managing Forest Ecosystems: Silviculture Lab (1.0 cr)
ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
ENT 4251 - Forest and Shade Tree Entomology (3.0 cr)

or PLPA 3003 - Diseases of Forest and Shade Trees (3.0 cr)
FW 2001 - Introduction to Fisheries, Wildlife, and Conservation Biology (3.0 cr)
or FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
or FW 4103 - Principles of Wildlife Management (3.0 cr)

Advanced Training in Assessment and Management of Forests

A minimum of 2 courses required.
Take 2 - 3 course(s) from the following:
•FR 4511 - Field Silviculture (2.0 cr)
•FR 4515 - Field Remote Sensing and Resource Survey (2.0 cr)
•FR 4521 - Field Timber Harvesting and Road Planning (2.0 cr)

Urban & Community Forestry

The urban and community forestry track prepares students for planning and managing vegetation and related resources in or near urban communities, and for specializations such as urban planning and environmental education. Urban forests include areas along streets, in parks, private lands, greenbelts, and open spaces. Graduates help plan, design, and protect these forests including supervision of tree selection, planting, and plant health care programs. Employers include city government, tree care/arboricultural firms, state and federal forestry agencies, nurseries, and utility companies. Graduates may also qualify for traditional forestry positions. This track includes a field session.

All required courses in this track must be taken A-F and completed with a grade of at least C-.

Urban and Community Forestry Core

HORT 1015 - Woody and Herbaceous Plants (4.0 cr)
FR 3501 - Arboriculture: Selection and Maintenance of Trees (3.0 cr)
HORT 4141W - Plant Production I [WI] (4.0 cr)
FR 4501 - Urban Forest Management: Managing Greenspaces for People (3.0 cr)
ENT 4251 - Forest and Shade Tree Entomology (3.0 cr)
PLPA 3003 - Diseases of Forest and Shade Trees (3.0 cr)
FR 3218 - Measuring and Modeling Forests (3.0 cr)
or ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
FR 3114 - Hydrology and Watershed Management (3.0 cr)
or ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
FR 4118 *{Inactive}*(3.0 cr)
or BIOL 3002 - Plant Biology: Function (2.0 cr)
URBS 1001W - Introduction to Urban Studies: The Complexity of Metropolitan Life [WI] (3.0 cr)
or URBS 3001W - Introduction to Urban Studies: The Complexity of Metropolitan Life [WI] (3.0 cr)

Twin Cities Campus

Horticulture B.S.

Horticultural Science

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 70 to 75
- Degree: Bachelor of Science

The horticulture major educates students for rewarding careers in diverse areas such as research (plant breeding/genetics or plant molecular biology); food and plant production (sustainable/organic); plant use and function (design/reclamation/restoration); and recreation (golf courses/parks). Students gain experience in the use of plants to alter environments, restore damaged landscapes, improve health and well-being of individuals, educate people about science and agriculture, improve community environments, and provide recreational and practical benefits to the public.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Applied courses in horticultural science, soil science, entomology, plant pathology, and applied economics vary depending on program.

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Core Courses

HORT 1001 - Plant Propagation [BIOL] (4.0 cr)
HORT 1015 - Woody and Herbaceous Plants (4.0 cr)
HORT 3005W - Environmental Effects on Horticultural Crops [WI] (4.0 cr)
HORT 4096 - Professional Experience Program: Internship (1.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
HORT 4401 - Plant Genetics and Breeding (4.0 cr)
or HORT 4071W - Applications of Biotechnology to Plant Improvement [WI] (4.0 cr)
HORT 2100 - Agricultural Biochemistry (3.0 cr)
or BIOC 3021 - Biochemistry (3.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
or BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

Chemistry

CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)

Program of Study

In consultation with their adviser, students develop a program of study consisting of at least 24 credits; 8 credits must have a HORT designator at 3xxx or above. From the total 24 credits, a minimum of 18 credits must be at 3xxx or above.

Horticulture Options
Students are required to complete one of the following course groups:

Science Option
Recommended for students considering graduate education or a career involving a detailed understanding of plants, their interactions with the environment, plant breeding, and other activities related to plant growth and development.
CHEM 2301 - Organic Chemistry I (3.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

-OR-

Business Option
Recommended for students interested in careers in wholesale, retail, or service industries and where continued education could focus on business, law, or other aspects of commercial horticultural practice and/or marketing.
APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
Take 3 or more course(s) from the following:
- HORT 4461 - Horticultural Marketing (3.0 cr)
- MGMT 3001 - Fundamentals of Management (3.0 cr)
- MGMT 3010 - Introduction to Entrepreneurship (4.0 cr)
- ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
  or APEC 1251 - Principles of Accounting (3.0 cr)
- SCO 2550 - Business Statistics: Data Sources, Presentation, and Analysis (4.0 cr)
  or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Nutrition B.S.

Food Science & Nutrition

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 74 to 102
- Degree: Bachelor of Science

The nutrition major explores how nutrients and the foods from which they are derived aid the body in health, growth, and development. With major national and international concerns for how food and nutrition affect health and disease, registered dietitians and nutritionists have many career opportunities. Students choose one of three options: 1) nutrition studies, 2) the Didactic Program in Dietetics, or 3) nutritional science.

Students expecting to apply to an internship or graduate school should maintain a GPA of at least 3.00. A cumulative GPA of at least 3.30 is highly recommended.

The Didactic Program in Dietetics (nutrition and dietetics option) is currently granted accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995 (312-899-4772).

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Foundation Courses

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or PSTL 1461 - Multicultural Perspectives in Public Speaking [CIV] (3.0 cr)
or AFEE 3221 - Communication for Agriculture, Food, and the Environment (3.0 cr)
BIOL 1009 - General Biology [BIOL] (4.0 cr)
or PSTL 1131 - Principles of Biological Science [BIOL] (4.0 cr)
ANSC 3301 - Human and Animal Physiology (3.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
or BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)
or FSCN 2021 - Introductory Microbiology (4.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Core Courses

All nutrition major students are required to complete these core nutrition-related courses.
FSCN 1102 - Food: Safety, Risks, and Technology [CIV] (3.0 cr)
FSCN 1112 - Principles of Nutrition (3.0 cr)
FSCN 3102 - Introduction to Food Science (3.0 cr)
FSCN 3612 - Life Cycle Nutrition (3.0 cr)
FSCN 4612 - Advanced Human Nutrition (4.0 cr)
FSCN 4613 - Experimental Nutrition (2.0 cr)
FSCN 4614 - Community Nutrition [SOCS, DSJ] (3.0 cr)
FSCN 4621W - Nutrition and Metabolism [WI] (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or an honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Didactic Program in Dietetics

The Didactic Program in Dietetics (DPD) provides excellent undergraduate preparation to meet the knowledge requirements delineated by the American Dietetic Association (ADA) for entry-level dietitians. The DPD training includes a strong science component of biological sciences, chemistry, and biochemistry courses appropriate for admission to graduate school. A liberal arts core and specialized courses in nutrition, nutritional biochemistry, clinical nutrition, food chemistry, menu planning, and food service management provide depth and breadth. The mission of the University of Minnesota DPD is to prepare students for entry into and successful completion of a dietetic internship, a variety of employment opportunities related to food and nutrition, or graduate/professional programs.

Students who plan to become registered dietitians must apply to the DPD according to specified criteria. There is no difference in the required courses; however, only those students who are accepted into the DPD will receive a Verification Statement, which is needed to enter into a dietetic internship.

Didactic Program in Dietetics Courses

FSCN 3614 - Nutrition Education and Counseling (3.0 cr)
FSCN 3615 - Sociocultural Aspects of Food, Nutrition, and Health [GP] (3.0 cr)
FSCN 3731 - Food Service Operations Management Laboratory (2.0 cr)
FSCN 3732 - Food Service Operations Management (3.0 cr)
FSCN 4665 - Medical Nutrition Therapy I (3.0 cr)
FSCN 4666 - Medical Nutrition Therapy II (3.0 cr)
FSCN 4732 - Food and Nutrition Management (3.0 cr)
FSCN 4664 - Senior Capstone: Becoming a Registered Dietitian (1.0 cr)
MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
Students must select one 4xxx or above FSCN or NUTR course of at least 3 credits. Students cannot select a course that is already required for the program.

Nutritional Science

The nutritional science option is for students planning to do graduate work in nutrition, related sciences, or professional programs such as medicine or dentistry.

Nutritional Science Courses

CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
FSCN 4622 - Nutritional Toxicology, the basic science of diet-related toxicants (3.0 cr)
BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)
MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
FSCN 4112 - Food Chemistry and Functional Foods (3.0 cr)
or FSCN 4121 - Food Microbiology (3.0 cr)
or NUTR 5622 - Vitamin and Mineral Biochemistry (3.0 cr)
or NUTR 5624 - Nutrition and Genetics (2.0 cr)

Nutrition Studies

Nutrition major students who do not select either the DPD or Nutritional Science sub-plan may utilize the remainder of the 120 credits needed to graduate by specializing in an area of their choosing. Specialization can include regulatory nutrition, entrepreneurial nutrition, health/wellness/medicine, nutrition communications, and existing minor. Contact your academic adviser to discuss recommended course options.

Mathematics

MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)

Nutrition Studies Specialization Area

Nutrition studies students may utilize the remainder of the 120 credits needed to graduate by specializing in an area of their choosing. Contact your academic adviser to discuss recommended course options.

Upper Division Food Science and Nutrition Courses

Students must complete at least 9 credits of 3000-level or above FScN or NUTR upper-division courses. Students cannot select a course that is already required for the program.

Twin Cities Campus

Recreation Resource Management B.S.

Forest Resources

College of Food, Agricultural and Natural Resource Sciences

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 90 to 120
- This program requires summer terms.
- Degree: Bachelor of Science

The recreation resources management curriculum prepares students for a career in protected area planning and management across the state, United States, or globe. The curriculum emphasizes natural and managed non-urban areas; natural resources-oriented recreation programs in public and private sectors; social science aspects of natural resources use; and skills in communication, planning, and management. Graduates often serve as park or river rangers, protected area managers, outdoor educators or recreation area and facilities planners. Typical employers include protected area management and planning agencies within federal, state, and local parks; forestry; wildlife; nature conservation; and related non-governmental organizations. Additionally, this curriculum provides excellent preparation for graduate training in the human dimensions of natural resources. A minor is also available. Students may also apply credits toward the International Ecotourism Certificate.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major requirements must be taken A-F (unless only offered S-N), and students must earn a grade of at least C- or better.

Communication Skills

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)

Mathematical Thinking

MATH 1031 - College Algebra and Probability [MATH] (3.0 cr)
or MATH 1051 - Precalculus I [MATH] (3.0 cr)
ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Physical and Biological Sciences

BIOL 2022 - General Botany (3.0 cr)
BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
or SOIL 1125 - The Soil Resource [ENV] (4.0 cr)

Social Sciences

ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)

PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
PSY 3201 - Introduction to Social Psychology (3.0 cr)
or SOC 3721 - Principles of Social Psychology (3.0 cr)

Introductory and General
RRM 1001 - Orientation and Information Systems (1.0 cr)

Resource Assessment
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)

Management of Vegetation, Wildlife, Soil, and Water Resources
FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
FR 3104 - Forest Ecology (4.0 cr)
or FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
or ESPM 3108 - Ecology of Managed Systems [ENV] (3.0 cr)
FR 3114 - Hydrology and Watershed Management (3.0 cr)
or ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
FW 2001 - Introduction to Fisheries, Wildlife, and Conservation Biology (3.0 cr)
or ESPM 3101 - Conservation of Plant Biodiversity (3.0 cr)
or FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
or FW 4103 - Principles of Wildlife Management (3.0 cr)

Policy, Management, and Planning
ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
ESPM 3245 - Sustainable Land Use Planning and Policy [ENV] (3.0 cr)
RRM 4232W - Managing Recreational Lands [WI] (4.0 cr)
RRM 5259 - Visitor Behavior Analysis (3.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
ESPM 4811 - Environmental Interpretation (3.0 cr)
RRM 3101 - Park and Protected Area Tourism (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

As part of their honors program, CFANS students complete CFAN 3100H; they must submit their project for this faculty-mentored honors experience to the honors committee for approval prior to registration.

Twin Cities Campus

Urban and Community Forestry B.S.

Forest Resources

College of Food, Agricultural and Natural Resource Sciences

- **Students will no longer be accepted into this program after Spring 2007. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 120
- This program requires summer terms.
- Degree: Bachelor of Science

The urban and community forestry curriculum prepares students for careers in planning and managing vegetation and natural resources in or near urban communities, and for direct involvement in resource management or for specialized supporting roles in areas such as urban planning and environmental education.

Urban forests include areas along streets and in parks, private lands, greenbelts, and open spaces. Urban foresters help communities plan, design, or protect urban and peri-urban forests; supervise tree selection and planting; and design insect control/disease protection and plant health care programs.

Principle employers for graduates in urban and community forestry include city governments, private tree care and arboricultural consulting companies, state and federal forestry agencies, nurseries, and utility companies. Graduates may also be qualified for traditional forestry positions, including those in the federal government.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students going into consulting or private business should choose courses in the forest health and cultural practices of urban forestry. Students interested in managing the urban landscape should concentrate on courses in the management and administration areas.

All required courses must be taken A-F, and students must earn a grade of at least C-.

Communication Skills

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or WRIT 1223 *{Inactive}*(3.0 cr)

Mathematical Thinking

ESPM 1145 *{Inactive}*(4.0 cr)
or MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
ESPM 3012 - Statistical Methods for Environmental Scientists and Managers [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or STAT 5021 - Statistical Analysis (4.0 cr)

Social Sciences
ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
POL 1001 - American Democracy in a Changing World [SOCS] (4.0 cr)

Physical and Biological Sciences
BIOL 2022 - General Botany (3.0 cr)
BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1009 - General Biology [BIOL] (4.0 cr)
SOIL 1125 - The Soil Resource [ENV] (4.0 cr)
or SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)
Take one of the following pairs of courses.
CHEM 1011 *{Inactive}*(4.0 cr)
BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
or CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)

Professional Courses
ESPM 3211 - Survey, Measurement, and Modeling for Environmental Analysis (3.0 cr)
FR 1001 - Orientation and Information Systems (1.0 cr)
FR 3131 - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)
ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
RRM 4232W - Managing Recreational Lands [WI] (4.0 cr)
URBS 1001W - Introduction to Urban Studies: The Complexity of Metropolitan Life [WI] (3.0 cr)
ENT 4251 - Forest and Shade Tree Entomology (3.0 cr)
FR 1101 - Dendrology: Identifying Forest Trees and Shrubs (3.0 cr)
FR 3104 - Forest Ecology (4.0 cr)
FR 3411 - Managing Forest Ecosystems: Silviculture (3.0 cr)
FR 3501 - Arboriculture: Selection and Maintenance of Trees (3.0 cr)
FR 4501 - Urban Forest Management: Managing Greenspaces for People (3.0 cr)
HORT 1015 - Woody and Herbaceous Plants (4.0 cr)
HORT 5041W *{Inactive}*[WI] (4.0 cr)
PLPA 3003 - Diseases of Forest and Shade Trees (3.0 cr)
BIOL 3002 - Plant Biology: Function (2.0 cr)
or FR 4118 *{Inactive}*(3.0 cr)
ESPM 4061W - Water Quality and Natural Resources [WI] (3.0 cr)
or FR 3114 - Hydrology and Watershed Management (3.0 cr)
(taught at Cloquet Forestry Center)
FR 2101 - Identifying Forest Plants (1.0 cr)
with FR 2102 - Northern Forests: Field Ecology (2.0 cr)
with FR 2104 - Measuring Forest Resources (1.0 cr)

Additional Professional Courses
Select courses from the list below in consultation with a faculty adviser.
Take 6 or more credits(s) from the following:
•ANTH 3041 - Ecological Anthropology (3.0 cr)
•BBE 1002 - Biorenewable Resources [TS] (3.0 cr)
•ESPM 3021 *{Inactive}*[ENVT] (3.0 cr)
•ESPM 3031 - Applied Global Positioning Systems for Geographic Information Systems (3.0 cr)
•ESPM 3101 - Conservation of Plant Biodiversity (3.0 cr)
•ESPM 3202W - Environmental Conflict Management, Leadership, and Planning [WI] (3.0 cr)
•ESPM 3703 - Agroforestry in Watershed Management (3.0 cr)
•FR 3204 - Landscape Ecology and Management (3.0 cr)
•FR 3262 - Remote Sensing of Natural Resources and Environment (3.0 cr)
•FW 2001 - Introduction to Fisheries, Wildlife, and Conservation Biology (3.0 cr)
•FW 5603W - Habitats and Regulation of Wildlife [WI] (3.0 cr)
•GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
•HORT 4021 *{Inactive}*(4.0 cr)
•LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
•MGMT 3001 - Fundamentals of Management (3.0 cr)
•WRIT 3266 *{Inactive}*[C/PE] (3.0 cr)
•SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
•SOC 3451W - Cities and Social Change [WI] (3.0 cr)
•SOIL 3416 - Plant Nutrients in the Environment (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors

This is an honors sub-plan.

CFANS students may participate in honors at both the freshman/sophomore level and the junior/senior level.

At the freshman/sophomore level, students participate in specially designed honors courses and honors colloquia focusing on current issues in their chosen field. Students complete three honors courses in their first two years; one must be an honors colloquium (CFAN 1000H). Completion of the freshman/sophomore honors program is recognized by a certificate and by designation on a student's transcript.

The heart of the junior/senior level honors program is an honors project supervised by a faculty mentor. Students also participate in other honors options designed to enhance their academic experiences. Graduation with honors is determined by GPA in the last 60 credits of A-F registration (including transfer coursework). Minimum GPAs are specified below.

Transcripts of students graduating with honors show one of the following:
Cum laude (minimum GPA: 3.50)
Magna cum laude (minimum GPA: 3.66)
Summa cum laude (minimum GPA: 3.75)

Students also receive recognition during commencement. To achieve the honors notation on their transcripts, students must be admitted to the junior/senior Honors Program, meet the GPAs stated above and complete all Honors Program requirements--which for most students comprises one semester of the Honors Colloquium, a second honors registration or approved Honors Option, and Honors Research. Admission to the Honors Program provides an opportunity for students to explore honors classes from other programs. The honors option offers students the flexibility to tailor a portion of the program to meet their unique needs and interests. Registration in honors courses requires admission to the Honors Program and college office approval.

Honors Focus

Honors (Freshman/Sophomore)

Freshman/sophomore honors students must complete at least one registration of CFAN 1000H and two additional honors courses by their 60th credit. Additional courses may be taken from CFAN 1000H, CFAN 3101H, or other University-wide honors coursework. Students may propose an honors "option" in place of one required honors registration.
CFAN 1000H *{Inactive}*(2.0 cr)
CFAN 3101H *{Inactive}*(2.0 cr)
or other honors designated coursework

-OR-

Honors (Junior/Senior)

Junior/senior honors students must complete one registration of CFAN 3101H. They must complete one additional registration in either CFAN 3101H or another University-wide honors class, or propose an honors "option" (this must be approved by the honors committee). Students must also complete CFAN 3100H. This faculty-mentored honors project is submitted to the honors committee for approval prior to registration.
CFAN 3101H *{Inactive}*(2.0 cr)
CFAN 3100H - Honors Experience (2.0 - 3.0 cr)
an honors designated course
or approved honors "option"

Twin Cities Campus

Acting B.F.A.

Theatre Arts & Dance

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 84
- Degree: Bachelor of Fine Arts

The B.F.A. in acting is an intensive, individualized, actor training program that uses both faculty from theatre and dance, as well as the Guthrie Theater's professional artistic staff to provide selected students with the physical, vocal, emotional, and intellectual skills necessary to succeed as working performance artists. The degree is intended to prepare students for entry into advanced education at a conservatory and/or graduate school, or professional employment.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Entry into the B.F.A. acting program is by audition only, and students are admitted only in fall semester.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn no more than one undergraduate degree from the theatre arts program: a B.A. in theatre arts, or a B.F.A. in acting, or a minor in theatre arts.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Freshman Courses

TH 1381 - New Voices (1.0 cr)
TH 1391 - BFA Acting I (3.0 cr)
TH 1392 - BFA Voice and Speech I (2.0 cr)
TH 1393 - BFA Movement I (2.0 cr)
TH 1501 - Introduction to Design and Technology for Live Performance (3.0 cr)
ENGL 1181W - Introduction to Shakespeare [LITR, WI] (4.0 cr)
TH 1395 - BFA Acting II (3.0 cr)
TH 1396 - BFA Voice and Speech II (2.0 cr)
TH 1397 - BFA Movement II (2.0 cr)
Take 1 or more course(s) from the following:
- TH 3521 - Introduction to Scenic Design for Theater and Performance (3.0 cr)
- TH 3531 - Introduction to Theatrical Costume Design (3.0 cr)
- TH 3541 - Introduction to Stage Lighting Design (3.0 cr)
- TH 3571 - Introduction to Stage Technology (3.0 cr)

Sophomore Courses

TH 2391 - BFA Acting III (3.0 cr)
TH 2392 - BFA Voice and Speech III (2.0 cr)
TH 2393 - BFA Movement III (2.0 cr)
TH 3171 - History of the Theatre: Ancient Greece Through Neo-Classicism (3.0 cr)

TH 2395 - BFA Acting IV (3.0 cr)
TH 2396 - BFA Voice and Speech IV (2.0 cr)
TH 2397 - BFA Movement IV (2.0 cr)
TH 3172 - History of the Theatre: Age of Enlightenment to Present (3.0 cr)

Junior Courses
Fall semester of the junior year is in the London Study Abroad program.
TH 3391 - BFA Acting V (3.0 cr)
TH 3392 - BFA Voice and Speech V (2.0 cr)
TH 3393 - BFA Movement V (2.0 cr)
Theatre Department Elective (3 cr.)
TH 3395 - BFA Intensive I (2.0 cr)
TH 3398 - BFA Rehearsal & Performance I (2.0 cr)
TH 3399 - BFA Rehearsal and Performance II (2.0 cr)
TH 4532 - Makeup for the Actor (2.0 cr)
Movement Elective (1 cr.)

Senior Courses
TH 4391 - BFA Intensive II (2.0 cr)
TH 4393 - BFA Rehearsal and Performance III (2.0 cr)
TH 4394 - BFA Rehearsal and Performance IV (2.0 cr)
Movement Elective (1 cr.)
TH 4395 - BFA Intensive III (2.0 cr)
TH 4398 - BFA Rehearsal and Performance V (2.0 cr)
TH 4399 - BFA Rehearsal and Performance VI (2.0 cr)
Movement Elective (1 cr.)
Theatre Department Elective (3 cr.)
TH 4177W - Survey of Dramatic Literature I: Strategic Interpretation [WI] (3.0 cr)
or TH 4178W - Survey of Dramatic Literature II: Representation and its Effects [WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

African American and African Studies B.A.

Afr American/African Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

The African American and African studies major integrates the global study of African peoples by teaching students the tools of inquiry from the liberal arts disciplines. Majors can also take courses in the departmental curriculum that fulfill the University-wide diversified core requirements and the designated theme requirements (see registration under One Stop for more information). Honors and freshman seminars are also offered.

The core requirement for the major is a combination of courses from one of three disciplinary clusters or two regional concentrations. These include 1) literatures and arts of the African world 2) histories and historiography of the African world 3) social and behavioral science perspectives on the African world 4) the African continent and 5) the African diaspora.

The Department of African American and African Studies fully integrates African and Middle East languages into its undergraduate curriculum and learning abroad opportunities. The department prepares students intellectually to examine and participate in an ethno-national culture and for world citizenship. The languages include Arabic (spoken throughout North Africa and the Middle East), Swahili (spoken throughout East, Central, and South Africa), and Hausa (spoken in West Africa from Senegal to Sudan, fall 2007). Students are required to take 4 semester(s) of Arabic, Swahili, or Hausa; or a relevant Indo-European language such as French, German, Dutch, Portuguese, or Spanish.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Arabic, Swahili, Hausa, French,Ger,Dutch,Port,Span.

Students complete 3 credits in preparatory coursework (AFRO 1012) and 9-10 credits in the following areas: one "ways of knowing" course, one history of the field course, and one 3xxx, 4xxx, or 5xxx statistics or field methods course approved by the undergraduate adviser. They also complete 9 AFRO upper-division credits in one of five disciplinary clusters or regional concentrations: history, literature and the arts, social and behavioral sciences, Africa, or African diaspora; as well as 3 credits in a course examining gender issues, a 3-credit capstone seminar (AFRO 4573 or other 4xxx seminar), and 3 credits of a senior project thesis for a total of at least 30 credits. Students may earn a B.A. or a minor in African American and African studies, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Requirements

AFRO 1009, 1011 and 1021 are not required pre-requisites for upper-division courses, but it is strongly recommended that students complete one or more of them, depending on their declared disciplinary focus.

AFRO 1012 - Black Worlds in Global Perspective: Challenges and Changes [GP] (3.0 cr)
AFRO 4105 - Ways of Knowing in Africa and the African Diaspora (3.0 cr)
AFRO 4557 - History of the Field: Development of African American, African, and African Diasporic Studies (3.0 cr)

Statistics or Field Methods
AFRO 5551 - Methods: Use of Oral Traditions as Resources for History (3.0 cr)
or SOC 3801 - Sociological Research Methods (4.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
Gender Issues
AFRO 3251W - Sociological Perspectives on Race, Class, and Gender [WI] (3.0 cr)
or AFRO 3592W - Introduction to Black Women Writers in the United States [CD, LIT, WI] (3.0 cr)
or AFRO 3625W - Black Women Writers in the Diaspora [LITR, GP, WI] (3.0 cr)
or AFRO 3626 - Literature of African American Men: Sex, Family, and Relationships (3.0 cr)
Capstone Seminar
AFRO 4xxx

Senior Project
Students must complete the senior project by registering for AFRO 4991W.
AFRO 4991W - Thesis Research and Writing [WI] (3.0 cr)

Disciplinary Clusters or Regional Concentrations

History
AFRO 1009 is not required for upper-division courses, but students are strongly encouraged to complete it if they are concentrating in history.
Take 9 or more credits(s) from the following:
•AFRO 3001 - West African History: Early Times to 1800 [GP] (3.0 cr)
•AFRO 3002 - West African History: 1800 to Present (3.0 cr)
•AFRO 3006 - Impact of African Migrations in the Atlantic World (3.0 cr)
•AFRO 3120 - Social and Intellectual Movements in the African Diaspora (3.0 cr)
•AFRO 3204 - History of South Africa to 1910 (3.0 cr)
•AFRO 3205 - History of South Africa from 1910 (3.0 cr)
•AFRO 3431 - Early Africa and Its Global Connections [HIS, GP] (4.0 cr)
•AFRO 3432 - Modern Africa in a Changing World [HP, IP] (4.0 cr)
•AFRO 3437 - History of East Africa (3.0 cr)
•AFRO 3756 - Social and Cultural History of Blacks in Sports (3.0 cr)
•AFRO 3864 - African American History: 1619 to 1865 (4.0 cr)
•AFRO 3865 - African American History: 1865 to the Present (4.0 cr)
•AFRO 3866 - The Civil Rights and Black Power Movement, 1954-1984 (3.0 cr)
•AFRO 4001 - Seminar: History of Women in South Africa (3.0 cr)
•AFRO 5437 - History of East Africa (3.0 cr)

-OR-

Literature and the Arts
Take 9 or more credits(s) from the following:
•AFRO 3108 - Black Music: A History of Jazz (3.0 cr)
•AFRO 3112 - In the Heart of the Beat: the Poetry of Rap (3.0 cr)
•AFRO 3301 - The Music of Black Americans (3.0 cr)
•AFRO 3592W - Introduction to Black Women Writers in the United States [CD, LIT, WI] (3.0 cr)
•AFRO 3601W - African Literature [LITR, GP, WI] (3.0 cr)
•AFRO 3625W - Black Women Writers in the Diaspora [LITR, GP, WI] (3.0 cr)
•AFRO 3626 - Literature of African American Men: Sex, Family, and Relationships (3.0 cr)
•AFRO 3628 - Literature of Rebellion: the Amistad and other Revolts (3.0 cr)
•AFRO 3634 - Blues & Rhythm and Blues (3.0 cr)
•AFRO 3654 - African Cinema (4.0 cr)
•AFRO 4112 - The Beat Goes on: Advanced Studies in the Poetry of Rap (3.0 cr)
•AFRO 4593 - The African American Novel (3.0 cr)
•AFRO 4597 - Seminar: Harlem Renaissance (3.0 cr)
•AFRO 5181W - Blacks in American Theatre [WI] (3.0 cr)
•AFRO 5182 - Contemporary Black Theatre: 1960-Present (3.0 cr)

-OR-

Social/Behavioral Sci, Public Policy/Development
AFRO 1011 & 1021 are not required for upper-division courses, but students are strongly encouraged to complete one if they are concentrating in social and behavioral sciences, public policy/development.
Take 9 or more credits(s) from the following:
•AFRO 3072 - Racism: Social and Psychological Consequences for Black Americans (3.0 cr)

•AFRO 3141 - Africa (3.0 cr)
•AFRO 3251W - Sociological Perspectives on Race, Class, and Gender [WI] (3.0 cr)
•AFRO 3543 - Psychology and the Black American Experience (3.0 cr)
•AFRO 4231 - The Color of Public Policy: African Americans, American Indians, and Chicanos in the United States (3.0 cr)
•AFRO 5072 - Racism: Social and Psychological Consequences for Black Americans (3.0 cr)

-OR-

Africa
AFRO 1009 & 1021 are not required for upper-division courses, but students are strongly encouraged to complete one if they are concentrating in Africa and African development.
Take 9 or more credits(s) from the following:
•AFRO 3001 - West African History: Early Times to 1800 [GP] (3.0 cr)
•AFRO 3002 - West African History: 1800 to Present (3.0 cr)
•AFRO 3006 - Impact of African Migrations in the Atlantic World (3.0 cr)
•AFRO 3141 - Africa (3.0 cr)
•AFRO 3204 - History of South Africa to 1910 (3.0 cr)
•AFRO 3205 - History of South Africa from 1910 (3.0 cr)
•AFRO 3431 - Early Africa and Its Global Connections [HIS, GP] (4.0 cr)
•AFRO 3432 - Modern Africa in a Changing World [HP, IP] (4.0 cr)
•AFRO 3654 - African Cinema (4.0 cr)
•AFRO 4013 - Cities in Africa: African, Islamic, European Traditions (3.0 cr)
•AFRO 5191 - Seminar: The African American Experience in South Africa (3.0 cr)
•AFRO 5437 - History of East Africa (3.0 cr)
•AFRO 5551 - Methods: Use of Oral Traditions as Resources for History (3.0 cr)

-OR-

African Diaspora
Take 9 or more credits(s) from the following:
•AFRO 3006 - Impact of African Migrations in the Atlantic World (3.0 cr)
•AFRO 3120 - Social and Intellectual Movements in the African Diaspora (3.0 cr)
•AFRO 3251W - Sociological Perspectives on Race, Class, and Gender [WI] (3.0 cr)
•AFRO 3431 - Early Africa and Its Global Connections [HIS, GP] (4.0 cr)
•AFRO 3432 - Modern Africa in a Changing World [HP, IP] (4.0 cr)
•AFRO 3543 - Psychology and the Black American Experience (3.0 cr)
•AFRO 3597W - Introduction to African American Literature and Culture I [WI] (4.0 cr)
•AFRO 3625W - Black Women Writers in the Diaspora [LITR, GP, WI] (3.0 cr)
•AFRO 4597 - Seminar: Harlem Renaissance (3.0 cr)
•AFRO 5120 - Social and Intellectual Movements in the African Diaspora (3.0 cr)
•AFRO 5191 - Seminar: The African American Experience in South Africa (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

American Indian Studies B.A.

American Indian Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 33
- Degree: Bachelor of Arts

American Indian studies is dedicated to advancing awareness and understanding of the histories and contemporary experiences of American Indian people. The program focuses on the native peoples of the United States and Canada, but also draws on the experiences of indigenous peoples from other parts of the world. This multidisciplinary field looks at the histories, cultures, arts, languages, literatures, philosophies, religions, economies, politics, and legal status of indigenous peoples. The program also focuses on the many differences that have separated tribal nations as sovereign bodies and on the many similarities that unite them in common interests and causes. It gives special attention to the sovereignty of American Indian nations as this is expressed in all walks of life - from the preservation and revitalization of native languages to the protection and retention of native lands.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

In addition to completing a preparatory course and a senior project, majors select between two sub-plans: the General Track or the Language Track.

Student may earn a B.A. or a minor in American Indian studies, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Course

AMIN 1001 - American Indian Peoples in the United States [DSJ] (3.0 cr)

Senior Project

Take a minimum of one credit.
AMIN 4990 - Topics in American Indian Studies (1.0 - 4.0 cr)
or AMIN 4991 - Independent Study (1.0 - 12.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

General Track

The general track is intended for majors who do not wish to complete their second language requirement in Dakota or Ojibwe.

Major Courses

Take a minimum of eight courses. Because the senior project can be taken for variable credits, total credits of 'Major Courses' plus 'Senior Project' should equal at least 30.

Take 8 or more course(s) from the following:

- **Required Course**
  - AMIN 1002 - Indigenous Peoples in Global Perspective [GP] (3.0 cr)
  - *or* AMIN 1003 - American Indians in Minnesota [HIS, DSJ] (3.0 cr)
- **Tribal Arts and Humanities (Group A)**
  - Take 1 or more course(s) from the following:
  - AMIN 3201W - American Indian Literature [LITR, DSJ, WI] (3.0 cr)
  - AMIN 3301 - American Indian Philosophies [AH, DSJ] (4.0 cr)
  - AMIN 3401 - American Indian Art [CD] (4.0 cr)
  - AMIN 3601 - American Indian Oral Traditions [CD, LIT] (3.0 cr)
  - AMIN 4201 - Topics in American Indian Literature (3.0 cr)
  - AMIN 3402 - American Indians and the Cinema [AH, DSJ] (3.0 cr)
    - *or* AMIN 5402 - American Indians and the Cinema [AH, DSJ] (3.0 cr)
  - AMIN 5303 - American Indians and Photography [AH, DSJ] (3.0 cr)
    - *or* AMIN 3303 - American Indians and Photography [AH, DSJ] (3.0 cr)
- **Culture and History (Group B)**
  - Take 1 or more course(s) from the following:
  - AMIN 3143 - Language in American Indian Culture and Society (3.0 cr)
  - AMIN 3701 - Ojibwe Culture and History [HIS, DSJ] (3.0 cr)
  - AMIN 3711 - Dakota Culture and History [HIS, DSJ] (3.0 cr)
  - AMIN 3713 - Lands and Homelands in the American Indian Great Lakes [HIS, DSJ] (3.0 cr)
  - AMIN 3870 - Topics in American Indian History (3.0 cr)
  - AMIN 3871 - American Indian History: Pre-Contact to 1830 [HIS, DSJ] (3.0 cr)
  - AMIN 3872 - American Indian History: 1830 to the Present (3.0 cr)
  - DAKO 3125 - Introduction to Dakota Linguistics (3.0 cr)
  - AMIN 3409 - American Indian Women: Ethnographic and Ethnohistorical Perspectives [HIS, DSJ] (3.0 cr)
    - *or* AMIN 5409 - American Indian Women: Ethnographic and Ethnohistorical Perspectives (3.0 cr)
  - AMIN 3107 - Structure of Anishinaabemowin, the Ojibwe Language (3.0 cr)
    - *or* AMIN 5107 - The Structure of Anishinaabemowin, the Ojibwe Language (3.0 cr)
  - AMIN 3108 - History of Anishinaabemowin, the Ojibwe Language (3.0 cr)
    - *or* AMIN 5108 - History of Anishinaabemowin, the Ojibwe Language (3.0 cr)
  - AMIN 3109 - Anishinaabe Literature (3.0 cr)
    - *or* AMIN 5109 - Anishinaabe Literature (3.0 cr)
- **Political, Social, and Policy Issues (Group C)**
  - Take 1 or more course(s) from the following:
  - AMIN 3312 - American Indian Environmental Issues and Ecological Perspectives (3.0 cr)
  - AMIN 3314 - Natural Resource Management and Environmental Policy in Indian Country (3.0 cr)
  - AMIN 3501 - American Indian Tribal Governments and Politics [HIS, DSJ] (3.0 cr)
  - AMIN 4231 - The Color of Public Policy: African Americans, American Indians, and Chicanos in the United States (3.0 cr)
  - AMIN 4501 - Law, Sovereignty, and Treaty Rights [C/PE] (3.0 cr)
  - AMIN 4511 - American Indian Political Economy [CD] (3.0 cr)
  - AMIN 4525W - Federal Indian Policy [C/PE, WI] (3.0 cr)
  - AMIN 3141 - American Indian Language Planning (3.0 cr)
    - *or* AMIN 5141 - American Indian Language Planning (3.0 cr)
- AMIN 4990 - Topics in American Indian Studies (1.0 - 4.0 cr)
  - *or* AMIN 4991 - Independent Study (1.0 - 12.0 cr)
- **Electives**
  - Take 15 or more credits(s) from the following:
  - AMIN 3xxx
  - AMIN 4xxx
  - AMIN 5xxx

Language Track

The language focus is designed for students who wish to deepen their understanding of the field by completing two years of either Dakota or Ojibwe.

The required four semesters of Dakota or Ojibwe language study will satisfy the CLA second language requirement.

Major Courses

Take a minimum of eight courses. Because the senior project can be taken for variable credits, total credits of 'Major Courses' plus 'Senior Project' should equal at least 30.
Take 20 credits.

Ojibwe Language Sequence

OJIB 1101 - Beginning Ojibwe I (5.0 cr)
OJIB 1102 - Beginning Ojibwe II (5.0 cr)
OJIB 3103 - Intermediate Ojibwe I (5.0 cr)
OJIB 3104 - Intermediate Ojibwe II (5.0 cr)

or **Dakota Language Sequence**

DAKO 1121 - Beginning Dakota I (5.0 cr)
DAKO 1122 - Beginning Dakota II (5.0 cr)
DAKO 3123 - Intermediate Dakota I (5.0 cr)
DAKO 3124 - Intermediate Dakota II (5.0 cr)

Advanced Level Language Course

Take 3 credits.
AMIN 3141 - American Indian Language Planning (3.0 cr)
or AMIN 3143 - Language in American Indian Culture and Society (3.0 cr)
or DAKO 3125 - Introduction to Dakota Linguistics (3.0 cr)
or DAKO 3126 - Dakota Language for the Classroom (3.0 cr)
or DAKO 4126 - Advanced Dakota Language I (3.0 cr)
or DAKO 4129 - Advanced Dakota Language II (3.0 cr)
or OJIB 3127 - Ojibwe Language for Teachers (3.0 cr)
or OJIB 4106 - Advanced Ojibwe I (3.0 cr)
or OJIB 4109 - Advanced Ojibwe Language II (3.0 cr)
or AMIN 3107 - Structure of Anishinaabemowin, the Ojibwe Language (3.0 cr)
or AMIN 5107 - The Structure of Anishinaabemowin, the Ojibwe Language (3.0 cr)
or AMIN 3108 - History of Anishinaabemowin, the Ojibwe Language (3.0 cr)
or AMIN 5108 - History of Anishinaabemowin, the Ojibwe Language (3.0 cr)
or AMIN 3109 - Anishinaabe Literature (3.0 cr)
or AMIN 5109 - Anishinaabe Literature (3.0 cr)

Electives

Note: AMIN 4990 & 4991 may count toward the electives sub-requirement.
Take 7 or more credits(s) from the following:
•AMIN 3xxx
•AMIN 4xxx
•AMIN 5xxx

Honors UHP

This is an honors sub-plan.

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Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

American Studies B.A.

American Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 33
- Degree: Bachelor of Arts

American studies is an interdisciplinary and comparative study of the United States as the outcome of migration, labor accumulation, land acquisition, cultural dissemination, the implantation of U.S. laws and policies, and identity formations around gender, sexuality, and race.
As an interdisciplinary field, American studies brings the social sciences and humanities together. Students and faculty interact in a variety of academic areas, including literature, history, sociology, anthropology, geography, cultural studies, art history, urban studies, political science, and women's studies.

In addition, the Department of American Studies includes a minor in Asian American studies and cooperates with the Departments of African-American and African Studies, American Indian Studies, Chicano Studies, and Indian Studies, which makes it possible for students to concentrate their studies in one of those cultural areas.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Students may earn a B.A. or a minor in American studies, but not both.

Preparatory Courses

Take 2 or more course(s) from the following:
•AMST 1xxx
•AMST 2xxx

Major Courses

Complete 7 upper-division courses for a minimum of 21 credits, including one course in world cultures. Up to three courses outside of AMST may be counted from the AMST-approved course list, or with consent from the director of undergraduate studies.
World Cultures Course
Course from AMST-approved Course List
or Take 6 or more course(s) from the following:
•AMST 3xxx
•AMST 4xxx
•AMST 5xxx

Proseminar Sequence

AMST 4961 - Proseminar I (3.0 cr)
AMST 4962W - Second Proseminar in American Studies [WI] (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Ancient Mediterranean Studies B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- **Students will no longer be accepted into this program after Fall 2011. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 37 to 39
- Degree: Bachelor of Arts

The program allows students to concentrate on literary and material remains from the Near East and the Mediterranean basin dating from ca. 3000 B.C.E. through 650 C.E. This long era of human history witnessed the development of the ancient civilizations of Mesopotamia, Israel, Egypt, Greece, and Rome--cultures, whose contributions remain fundamental to the modern western world. Students study the literature, history, and archaeology of these regions as a broad interconnected whole. They learn to evaluate and interpret a wide range of evidence from antiquity, as well as to appreciate the various methods by which meaning is extracted from the remains of other cultures and times.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students are strongly encouraged to complete the "Preparatory Courses" requirement shown in program requirements prior to admission to the major.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Preparatory Courses

Another course may fulfill this requirement with the approval of the director of undergraduate studies.
CNES 1001 - World of the Bible: Religions, Empires, and Discourses of Power [AH] (3.0 cr)
or CNES 1002 - World of Greece [HIS] (3.0 cr)
or CNES 1003 - World of Rome [HIS] (3.0 cr)
or CNES 1042 - Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1042H - Honors Course: Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1043 - Introduction to Greek and Roman Archaeology (4.0 cr)
or CNES 1044 *{Inactive}*(3.0 cr)
or CNES 1082 - Jesus in History (3.0 cr)
or CNES 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)

Major Courses

At least 30 credits must be 3xxx courses or higher, with at least 9 credits from each of three groups. No course may be used to fulfill the credit requirement for more than one group.
Take 33 or more credits(s) from the following:
•Take 9 or more credits(s) from the following:
•CNES 1001 - World of the Bible: Religions, Empires, and Discourses of Power [AH] (3.0 cr)
•CNES 1044 *{Inactive}*(3.0 cr)

- CNES 3142 - Art of Egypt (4.0 cr)
- CNES 3172 - Archaeology of Israel (3.0 cr)
- CNES 3202 - Prophecy in Ancient Israel (3.0 cr)
- CNES 3203 - The Bible: Wisdom, Poetry, and Apocalyptic (3.0 cr)
- CNES 4051 - Ancient Near East and Egypt: Neolithic to 1500 BCE (3.0 cr)
- CNES 4052 - Ancient Near East and Egypt: 1500 to 323 BCE (3.0 cr)
- CNES 5051 - Before Herodotus: History and Historiography of Mesopotamia and the Ancient Near East (3.0 cr)
- CNES 5251 *{Inactive}*(3.0 cr)
- RELS 5513 *{Inactive}*[WI] (3.0 cr)
- CNES 1082 - Jesus in History (3.0 cr)
- CNES 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
  or CNES 3201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
- CNES 3072 - The New Testament (3.0 cr)
  or CNES 5072 - The New Testament (3.0 cr)
- CNES 3502 - Ancient Israel: From Conquest to Exile (3.0 cr)
  or CNES 5502 - Ancient Israel: From Conquest to Exile (3.0 cr)

- Take 9 or more credits(s) from the following:
  - CNES 1002 - World of Greece [HIS] (3.0 cr)
  - CNES 3008 - History of Ancient Art (4.0 cr)
  - CNES 3152 - Art and Archaeology of Ancient Greece (4.0 cr)
  - CNES 3201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
  - CNES 5083 - Ancient Comedy (3.0 cr)
  - CNES 5103 *{Inactive}*(3.0 cr)
  - CNES 5108 - Greek Architecture (3.0 cr)
  - CNES 5111 *{Inactive}*(3.0 cr)
  - CNES 5112 *{Inactive}*(3.0 cr)
  - CNES 3071 - Greek and Hellenistic Religions (3.0 cr)
    or CNES 5071 - Greek and Hellenistic Religions (3.0 cr)
  - CNES 3081W - Classical Epic in Translation [LITR, WI] (3.0 cr)
    or CNES 5081W - Classical Epic in Translation [WI] (3.0 cr)
- Take 9 or more credits(s) from the following:
  - CNES 1003 - World of Rome [HIS] (3.0 cr)
  - CNES 3008 - History of Ancient Art (4.0 cr)
  - CNES 3104 - Ancient Rome: Kings and Consuls (3.0 cr)
  - CNES 3105 *{Inactive}*(3.0 cr)
  - CNES 3107 - Age of Constantine the Great (3.0 cr)
  - CNES 3108 - Age of St. Augustine of Hippo (3.0 cr)
  - CNES 3162 - Roman Art and Archaeology [HIS] (3.0 cr)
  - CNES 5013 - Introduction to Roman Law (3.0 cr)
  - CNES 5083 - Ancient Comedy (3.0 cr)
  - CNES 5172 - House, Villa, Tomb: Roman Art in the Private Sphere (3.0 cr)
  - CNES 5182 *{Inactive}*(3.0 cr)
  - CNES 3073 - Roman Religion and Early Christianity (3.0 cr)
    or CNES 5073 - Roman Religion and Early Christianity (3.0 cr)
  - CNES 3081W - Classical Epic in Translation [LITR, WI] (3.0 cr)
    or CNES 5081W - Classical Epic in Translation [WI] (3.0 cr)

Senior Project

Students should get a copy of the departmental statement on major projects from the director of undergraduate studies or department office. Students who complete a major project for another CLA major are not required to complete one for ancient Mediterranean studies.

CNES 3951W - Major Project [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Anthropology B.A.

Anthropology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35 to 39
- Degree: Bachelor of Arts

Anthropology is the study of human beings and cultures throughout the world during the present and past. Said another way, it is the study of "who we are, and how we came to be that way." Anthropology is partly a natural science, partly a social science, and partly a humanistic study. Anthropology majors compare and contrast the biological, social, and cultural similarities and differences of humans and their societies across the globe and develop a sophisticated understanding of the biological unity of our species.

Students who major in the field are expected to take courses in the four subfields of anthropology. Students planning a professional career in anthropology generally specialize in one of the subfields: biological anthropology (the evolutionary history of human and nonhuman primates), archaeology (the study of prehistoric and historic societies through their material culture), sociocultural anthropology (the study of the behavior of recent peoples in settings that range from unindustrialized societies to modern urban centers), and linguistic anthropology (the comparative study of languages and communication). The Anthropology Department website (http://anthropology.umn.edu/undergrad/requirements.html) offers several examples of course sequences designed to provide training in particular subfields.

There are a variety of opportunities for graduates with degrees in anthropology. While some go on to graduate school in order to obtain a position in a university, most graduates find non-academic jobs in the private and public sectors. Private industry consulting, environmental firms, product development and marketing firms, as well as the nonprofit sector all employ anthropologists because of the unique observational and critical thinking skills they possess. Governmental agencies at the federal and state levels seek anthropologists for various positions. Biological anthropologists find employment as forensic scientists working for law enforcement. Archaeologists find jobs in cultural resource management (CRM) firms whose services are contracted by construction companies to ensure compliance with legislation pertaining to archaeological and historical preservation. An anthropology major is also excellent preparation for professional schools in medicine, public health, nursing, and law.

The U.S. Bureau of Labor Statistics' data (http://www.bls.gov/oco/ocos315.htm) indicate that anthropologist and archaeologist jobs are growing at a faster rate (26 percent by 2018) than other social sciences. Based on the Wall Street Journal's interactive graphic (http://graphicsweb.wsj.com/documents/NILF1111/#term=), the unemployment percentage for graduates with an anthropology major is also lower than many more popular majors, including psychology, architecture, sociology, and journalism. More importantly, an anthropology major offers a holistic education that, regardless of the job attained after graduation, provides a perspective on humanity that inspires a lifetime of engagement with the issues of importance to our globalized society.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn a B.A. or a minor in anthropology, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses
ANTH 1001 - Human Evolution [BIOL] (4.0 cr)
ANTH 1003W - Understanding Cultures [SOCS, GP, WI] (4.0 cr)
or ANTH 1005W - Introduction to Cultural Diversity and the World System [SOCS, GP, WI] (4.0 cr)

Subfield Foundation Courses
Take at least one course from at least three of the four subfields: archeology; biological anthropology; sociocultural anthropology; linguistic anthropology.
Take 3 or more course(s) from the following:
•ANTH 3001 - Introduction to Archaeology [SOCS] (4.0 cr)
•ANTH 3002 - Sex, Evolution, and Behavior: Examining Human Evolutionary Biology (4.0 cr)
or ANTH 3401 - The Human Fossil Record (3.0 cr)
or ANTH 5401 - The Human Fossil Record (3.0 cr)
•ANTH 3003 - Cultural Anthropology (3.0 cr)
•ANTH 3005W - Language, Culture, and Power [SOCS, DSJ, WI] (4.0 cr)
or ANTH 3015W - Biology, Evolution, and cultural Development of Language [SOCS, WI] (3.0 cr)
or ANTH 5015W - Biology, Evolution, and Cultural Development of Language [SOCS, WI] (3.0 cr)

Upper-Division Training in Anthropology
Students must take five upper-division courses in anthropology, of which at least three must be 4xxx or 5xxx courses. Directed studies, reading, and research courses can be used to satisfy part of the upper-division training requirement (normally limited to a total of 6 credits). Special topics courses can be used to satisfy part of the upper-division training requirement.
Take 2 or more course(s) from the following:
•ANTH 3xxx
•ANTH 4xxx
•ANTH 5xxx
Take 3 or more course(s) from the following:
•ANTH 4xxx
•ANTH 5xxx

Senior Project
Choose one of the following two options to complete the senior project: Take ANTH 3913 and ANTH 4013. Enroll in ANTH 3913 at least one term before registering for ANTH 4013. Honors students should enroll in ANTH 4013H. Or, take 3 or more credits of ANTH 4xxx or ANTH 5xxx.
ANTH 3913 - Senior Project Planning (1.0 cr)
ANTH 4013 - Senior Project (3.0 cr)
or ANTH 4013H - Senior Honors Thesis Project (3.0 cr)
or Take 3 or more credits(s) from the following:
•ANTH 4xxx
•ANTH 5xxx

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Architecture B.A.

School of Architecture

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 57 to 58
- Degree: Bachelor of Arts

Architecture encompasses the study and creation of the buildings and environment that we inhabit. The concerns of architecture involve a wide variety of areas of study, including the art of representing existing environments and proposals through drawings and models; the technology of building structure, building materials, and natural and mechanical systems; the history, theory, and art of making, using, and understanding buildings as cultural artifacts for human use; and the practice of architecture in the context of urban form and society.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 3 courses before admission to the program.

Students interested in the B.A. with a major in architecture should see the prospective student adviser in 107 Rapson Hall, 612-626-3690.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Students must also complete the first-year writing requirement (with a minimum grade of C-), all high school prep requirements, and a total of 30 credits.
ARCH 1281 - Design Fundamentals I (4.0 cr)
ARCH 1701 - The Designed Environment (3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

All courses in math, physics, and English composition must be taken A-F with grades of C- or better to satisfy degree requirements and to progress in sequence courses.
During their program, students should maintain a portfolio of originals or duplicates of all freehand drawings, projects, and architecture studio designs. A portfolio is required for application to the graduate professional degree program.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Math and Physics Courses

MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

Major Courses

In addition to the required courses, students must complete 6 or more architecture elective credits not used elsewhere in the program. For these electives, students may not use ARCH 3351, 3352, 5351, or 5352.

ARCH 2301 - Introduction to Drawing in Architecture (4.0 cr)
ARCH 2281 - Design Fundamentals II (4.0 cr)
ARCH 3411W - Architectural History to 1750 [HIS, GP, WI] (3.0 cr)
ARCH 3412 - Architectural History Since 1750 [HIS, GP] (3.0 cr)
ARCH 3611 - Design in the Digital Age (3.0 cr)
ARCH 4561 - Architecture and Ecology (3.0 cr)
ARCH 4701W - Introduction to Urban Form and Theory [WI] (3.0 cr)
LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
ARCH 3711W - Environmental Design and the Sociocultural Context [WI] (3.0 cr)
or ARCH 3711V - Honors: Environmental Design and the Sociocultural Context [C/PE, WI] (3.0 cr)

Take 6 or more credits(s) from the following:

•ARCH 3xxx
•ARCH 4xxx

Architectural history elective

ARCH 4421W - Architecture and Interpretation: The Cave and the Light [WI] (3.0 cr)
or ARCH 4423 - Gothic Architecture (3.0 cr)
or ARCH 4424 - Renaissance Architecture (3.0 cr)
or ARCH 4425 - Baroque Architecture (3.0 cr)
or ARCH 4432 - Modern Architecture (3.0 cr)
or ARCH 4434 - Contemporary Architecture (3.0 cr)
or ARCH 4445W - Suburbia [WI] (3.0 cr)
or ARCH 4461 - North American Indian Architecture (3.0 cr)

Design workshops

Take 4 credits of design workshops (workshops may be 2 to 4 credits each).
Take 4 or more credits(s) from the following:

•ARCH 3250 - Design Workshop (1.0 - 6.0 cr)

Credits outside the major

B.A. majors complete 18 credits of 3xxx-4xxx courses outside the major.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Art B.A.

Art

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 38
- Degree: Bachelor of Arts

The program provides instruction in the visual arts by emphasizing the development of visual awareness and expression through hands-on involvement in the creative process. In the preparatory studio courses, students become familiar with the various materials and concepts used to understand the nature of visual language. Students then choose additional courses from such areas as drawing, painting, ceramics, printmaking, photography, sculpture, and experimental and media arts.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Note: ARTS 2xxx courses are equivalent to ARTS 1xxx courses. ARTS 2xxx are recommended for those intending to major or minor in Art, or those who have already declared a major or minor in Art. Majors are required to complete at least 12 upper-division degree credits in residence at the University of Minnesota Twin Cities campus. Students may earn no more than one degree from the Department of Art: a B.A. or a B.F.A. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

Take at least 16 credits. Note: ARTS 2xxx courses are recommended for already-declared majors and minors, or those intending to major or minor.

ARTS 1001 - Concepts in Visual Art (4.0 cr)
ARTS 1101 - Drawing [AH] (4.0 cr)
or ARTS 2101 - Drawing [AH] (4.0 cr)
ARTS 1301 - Sculpture [AH] (4.0 cr)
or ARTS 2301 - Sculpture [AH] (4.0 cr)
or ARTS 1801 - Ceramics [AH] (4.0 cr)
or ARTS 2801 - Ceramics [AH] (4.0 cr)
ARTS 1501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
or ARTS 2501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
or ARTS 1502 - Printmaking: Relief, Screen, and Digital Processes [AH] (4.0 cr)
or ARTS 2502 - Printmaking: Relief, Screen, Digital Processes [AH] (4.0 cr)
or ARTS 1601 - Experimental and Media Arts [AH] (4.0 cr)
or ARTS 2601 - Experimental and Media Arts [AH] (4.0 cr)
or ARTS 1701 - Photography [AH] (4.0 cr)
or ARTS 2701 - Photography [AH] (4.0 cr)
or ARTS 1703 - Digital Photography [AH] (4.0 cr)

or ARTS 2702 - Digital Photography [AH] (4.0 cr)

Major Courses

Take a minimum of four upper-division ARTS courses for at least 15 credits. Up to one ARTS 1xxx or 2xxx may count. One of the four upper-division ARTS courses should be taken concurrently with ARTS 3444 to fulfill the senior project. Take a minimum of two ARTH courses for at least 6 credits. Up to one ARTH 1xxx may count.

Take 4 or more course(s) totaling 15 or more credits(s) from the following:

- Take 0 - 1 course(s) from the following:
  - ARTS 1xxx
  - ARTS 2xxx
- Take 3 or more course(s) from the following:
  - ARTS 3xxx
  - ARTS 5xxx

Take 2 or more course(s) totaling 6 or more credits(s) from the following:

- Take 0 - 1 course(s) from the following:
  - ARTH 1xxx
- Take 1 or more course(s) from the following:
  - ARTH 3xxx
  - ARTH 5xxx

Senior Project

The senior project is completed in the student's final year of coursework. Take ARTS 3444 concurrently with one of the four courses chosen to fulfill the Major Courses sub-requirement. This course must be an ARTS 3xxx or 5xxx and worth a minimum of 4 credits. Students who double-major and choose to complete the senior project in their other major are still responsible for taking 38 total ARTS credits.

ARTS 3444 - Major Project (1.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Art B.F.A.

Art

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 67 to 73
- Degree: Bachelor of Fine Arts

The program provides in-depth instruction in the visual arts through a high concentration of coursework in the Department of Art. Admission is based on portfolio evaluation. The program is oriented toward professional practice or admission to a master's degree program.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 5 courses before admission to the program.

Art majors may apply to the B.F.A. degree program after completing the five preparatory core courses required in the major. Application is made by submitting a portfolio to a faculty committee for review. A faculty adviser is chosen upon admission to the B.F.A. program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Take a minimum of five courses (20 credits). Note: ARTS 2xxx courses are equivalent to ARTS 1xxx courses. ARTS 2xxx are recommended for those intending to major or minor in Art, or those who have already declared a major or minor in Art.

ARTS 1001 - Concepts in Visual Art (4.0 cr)
ARTS 1101 - Drawing [AH] (4.0 cr)
or ARTS 2101 - Drawing [AH] (4.0 cr)
ARTS 1301 - Sculpture [AH] (4.0 cr)
or ARTS 2301 - Sculpture [AH] (4.0 cr)
or ARTS 1801 - Ceramics [AH] (4.0 cr)
or ARTS 2801 - Ceramics [AH] (4.0 cr)
ARTS 1501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
or ARTS 2501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
or ARTS 1502 - Printmaking: Relief, Screen, and Digital Processes [AH] (4.0 cr)
or ARTS 2502 - Printmaking: Relief, Screen, Digital Processes [AH] (4.0 cr)
or ARTS 1601 - Experimental and Media Arts [AH] (4.0 cr)
or ARTS 2601 - Experimental and Media Arts [AH] (4.0 cr)
or ARTS 1701 - Photography [AH] (4.0 cr)
or ARTS 2701 - Photography [AH] (4.0 cr)
or ARTS 1703 - Digital Photography [AH] (4.0 cr)
or ARTS 2702 - Digital Photography [AH] (4.0 cr)

Take at least 4 credits of ARTS 1xxx or ARTS 2xxx.

ARTS 1xxx
or ARTS 2xxx

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students who wish to apply credits from art courses taken outside the University of Minnesota should contact the department's undergraduate adviser.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Students may earn no more than one degree from the Department of Art: a B.A. or a B.F.A. or a minor.

Major Courses

Art Internship

Take either of the following courses for a minimum of one credit.
ARTS 3496 - Internship in the Arts (1.0 - 3.0 cr)
or ARTS 3499 - Internship at Katherine E. Nash Gallery (3.0 cr)

Seminar

Take the following course.
ARTS 5400 - Seminar: Concepts and Practices in Art (3.0 cr)

Critical Theory

Take 3 or more credits(s) from the following:
•ARTH 3577 - Photo Nation: Photography in America [AH] (3.0 cr)
•ARTH 5417 - Twentieth Century Theory and Criticism (3.0 cr)
•CSDS 5301 - Society, Ideology, and the Production of Art (3.0 cr)
•CSDS 5302 - Aesthetics and the Valuation of Art (3.0 cr)
•CSCL 1001 - Introduction to Cultural Studies: Rhetoric, Power, Desire [AH, DSJ] (4.0 cr)
•CSCL 1201 - Introduction to Cinema and Media Culture [AH] (4.0 cr)
•CSCL 1301W - Reading Culture: Theory and Practice [AH, WI] (4.0 cr)
•CSCL 3115 - Cinema and Ideology [AH] (4.0 cr)
•CSCL 3321W - Theories of Culture [AH, WI] (3.0 cr)
•CSCL 3456W - Sexuality and Culture [DSJ, WI] (3.0 cr)
•CSCL 3458W - The Body and the Politics of Representation [HIS, WI] (3.0 cr)
•PHIL 3502W - Introduction to Aesthetics [WI] (3.0 cr)

Art History

Take at most 9 credits(s) from the following:
•**Art History Lower-division Courses**
•Take 0 - 3 credits(s) from the following:
•ARTH 1xxx
•**Art History Upper-division Courses**
•Take 6 or more credits(s) from the following:
•ARTH 3xxx
•ARTH 5xxx

Art Electives

Take 30 or more credits(s) from the following:
•ARTS 3xxx
•ARTS 5xxx

Senior Project

B.F.A. candidates register with their faculty adviser and participate in a solo or small group exhibition at an adviser-approved gallery or exhibition space during the final semester.
ARTS 5444 - Bachelor of Fine Arts Exhibition (1.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an

honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Art History B.A.

Art History

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

Using a wide variety of methodological approaches, art history faculty help students develop an awareness and knowledge of the visual environments from all periods of history. All 1xxx courses and most 3xxx courses do not have prerequisites and are intended for general audiences. Students who intend to apply for graduate school are strongly encouraged to take as many 5xxx courses from as many different professors as possible.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students are encouraged to take courses from a variety of instructors to ensure exposure to various approaches and methods. Students may earn a B.A. or a minor in art history, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Art History Foundation

ARTH 1001 - Introduction to Art History: Prehistoric to Contemporary [AH] (3.0 cr)
or ARTH 1002W - Why Art Matters [WI] (4.0 cr)

Art Practice

This course must be hands-on, and focused on the practice, rather than the history, of art. Other courses not on the list may fulfill this requirement, but only with prior approval from the undergraduate adviser or director of undergraduate studies.
Take 1 or more course(s) totaling 3 - 4 credits(s) from the following:

- ARTS 1101 - Drawing [AH] (4.0 cr)
- ARTS 1102 - Painting (4.0 cr)
- ARTS 1301 - Sculpture [AH] (4.0 cr)
- ARTS 1501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
- ARTS 1502 - Printmaking: Relief, Screen, and Digital Processes [AH] (4.0 cr)
- ARTS 1601 - Experimental and Media Arts [AH] (4.0 cr)
- ARTS 1701 - Photography [AH] (4.0 cr)
- ARTS 1801 - Ceramics [AH] (4.0 cr)
- ARTS 1902 - Freshman Seminar (3.0 cr)
- ARTS 1905 - Freshman Seminar (3.0 cr)
- ARTS 1910W - Freshman Seminar [WI] (3.0 cr)
- ARTS 2101 - Drawing [AH] (4.0 cr)
- ARTS 2301 - Sculpture [AH] (4.0 cr)

•ARTS 2501 - Printmaking: Intaglio and Lithography [AH] (4.0 cr)
•ARTS 2502 - Printmaking: Relief, Screen, Digital Processes [AH] (4.0 cr)
•ARTS 2601 - Experimental and Media Arts [AH] (4.0 cr)
•ARTS 2701 - Photography [AH] (4.0 cr)
•ARTS 2702 - Digital Photography [AH] (4.0 cr)
•ARTS 2801 - Ceramics [AH] (4.0 cr)

Art History Electives

Take 7 courses: five 3xxx and two 5xxx courses, spanning all 3 time periods and 2 geographic/cultural areas. ARTH 1910W/1004W may be substituted for an ARTH 3xxx course. Up to 3 credits of ARTH 3933/5993, 5994, or 3975 may count. Some courses span across time periods and geographic/cultural areas. Consult with the program adviser to determine which requirements these courses can fulfill. Note: some students may have to take more than 7 electives to reach the 30-credit minimum for graduation.

Take 7 or more course(s) totaling 21 or more credits(s) from the following:

•**Era I: Ancient to ca. 1300**
 •Take 1 or more course(s) from the following:
 •**Area: North America and Europe**
  •Take 0 or more course(s) from the following:
  •ARTH 3008 - History of Ancient Art (4.0 cr)
  •ARTH 3009 - Medieval Art [AH] (3.0 cr)
  •ARTH 3152 - Art and Archaeology of Ancient Greece [HIS] (3.0 cr)
  •ARTH 3162 - Roman Art and Archaeology [HIS] (3.0 cr)
  •ARTH 5108 - Greek Architecture (3.0 cr)
  •ARTH 5112 - Archaic and Classical Greek Art (3.0 cr)
  •ARTH 5172 - House, Villa, Tomb: Roman Art in the Private Sphere (3.0 cr)
 •**Area: Middle East and/or Islamic World**
  •Take 0 or more course(s) from the following:
  •ARTH 3142 - Art of Egypt (4.0 cr)
 •**South and/or East Asia**
  •Take 0 or more course(s) from the following:
  •ARTH 5765 - Early Chinese Art (3.0 cr)
  •ARTH 5775 - Formation of Indian Art: 2500 BCE to 300 CE (3.0 cr)
  •ARTH 5776 - Redefining Tradition: Indian Art, 400 to 1300 (3.0 cr)
•**Era II: ca. 1300 to 1800**
 •Take 1 or more course(s) from the following:
 •**Area: North America and Europe**
  •Take 0 or more course(s) from the following:
  •ARTH 3309 - Renaissance Art in Europe [AH] (3.0 cr)
  •ARTH 3311 - Baroque Art in Seventeenth Century Europe [AH] (3.0 cr)
  •ARTH 3312 - European Art of the Eighteenth Century: Rococo to Revolution (3.0 cr)
  •ARTH 3315 - The Age of Curiosity: Art and Knowledge in Europe, 1500-1800. [AH, TS] (3.0 cr)
  •ARTH 3335 - Baroque Rome: Art and Politics in the Papal Capital [HIS] (3.0 cr)
  •ARTH 5302 - Print Culture in Early Modern Europe (3.0 cr)
  •ARTH 5324 - 15th-Century Painting (3.0 cr)
  •ARTH 5335 - Baroque Rome: Art and Politics in the Papal Capital (3.0 cr)
•**Era III: 1800 to Present**
 •Take 1 or more course(s) from the following:
 •**Area: North America and Europe**
  •Take 0 or more course(s) from the following:
  •ARTH 3005 - American Art [AH] (4.0 cr)
  •ARTH 3012 - 19th and 20th Century Art (3.0 cr)
  •ARTH 3484 - The Art of Picasso and the Modern Movement (4.0 cr)
  •ARTH 5411 - Gender and Sexuality in Art Since 1863 (3.0 cr)
  •ARTH 5417 - Twentieth Century Theory and Criticism (3.0 cr)
  •ARTH 5454 - Design Reform in the Era of Art Nouveau (3.0 cr)
  •ARTH 5546 - American Architecture: 1840 to 1914 (3.0 cr)
•**Courses Spanning Across Time Periods and Areas: Consult with adviser.**
 •Take 0 or more course(s) from the following:
 •ARTH 1001 - Introduction to Art History: Prehistoric to Contemporary [AH] (3.0 cr)
 •ARTH 1002W - Why Art Matters [WI] (4.0 cr)
 •ARTH 1910W - Topics: Freshman Seminar [WI] (3.0 cr)
 •ARTH 1921W - Introduction to Film Study [AH, WI] (4.0 cr)
 •ARTH 3013 - Introduction to East Asian Art (3.0 cr)
 •ARTH 3014W - Art of India [AH, GP, WI] (4.0 cr)
 •ARTH 3015W - Art of Islam [AH, GP, WI] (4.0 cr)
 •ARTH 3017 - Islamic Culture [AH, GP] (4.0 cr)

- ARTH 3035 - Classical Myth in Western Art (4.0 cr)
- ARTH 3401 - Art Now [AH, CIV] (3.0 cr)
- ARTH 3422 - Off the Wall: History of Graphic Arts in Europe and America in the Modern Age (4.0 cr)
- ARTH 3464 - Art Since 1945 [HIS] (4.0 cr)
- ARTH 3921W - Art of the Film [AH, WI] (4.0 cr)
- ARTH 3930 - Junior-Senior Seminar (3.0 cr)
- ARTH 3940 - Topics in Art History (1.0 - 4.0 cr)
- ARTH 3975 - Directed Museum Experience (1.0 - 2.0 cr)
- ARTH 3993 - Directed Study (1.0 - 4.0 cr)
- ARTH 5301 - Visual Culture of the Atlantic World (3.0 cr)
- ARTH 5325 - Art of the Aztec Empire (3.0 cr)
- ARTH 5413 - Alternative Media: Video, Performance, Digital Art (3.0 cr)
- ARTH 5422 - Off the Wall: History of Graphic Arts in Europe and America in the Modern Age (4.0 cr)
- ARTH 5466 - Contemporary Art (3.0 cr)
- ARTH 5766 - Chinese Painting (3.0 cr)
- ARTH 5777 - The Diversity of Traditions: Indian Art 1200 to Present (3.0 cr)
- ARTH 5781 - Age of Empire: The Mughals, Safavids, and Ottomans (3.0 cr)
- ARTH 5785 - Art of Islamic Iran (3.0 cr)
- ARTH 5940 - Topics: Art of the Film (3.0 cr)
- ARTH 5950 - Topics: Art History (3.0 cr)
- ARTH 5993 - Directed Study (1.0 - 4.0 cr)

Senior Project

Before the end of the junior year, students select a "project" course with permission from the course instructor. The student completes a research paper for the course. The next semester, the student registers in ARTH 3971W or ARTH 3971V and under the instructor's supervision develops the paper into the senior project.

ARTH 3971W - Major Project [WI] (1.0 cr)
or ARTH 3971V - Honors: Major Project [WI] (1.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Asian Languages and Literatures B.A.

Asian Languages and Literatures

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35
- Degree: Bachelor of Arts

Asia is an increasingly important part of world politics, economics, and culture. The program prepares students to interact with the people and cultures of Asia.

Students in this program study an Asian language - Chinese, Hindi and Urdu, Japanese, Korean, or Hmong - as well as methods of literary and cultural analysis. The language study provides advanced spoken and written skills that allow students direct access to the people and cultures of Asia, where more than half the world's population lives. The analytical courses give a theoretically sophisticated understanding of the rich literary and cultural texts, from the accepted literary canon to popular culture and film.

The major has five sub-plans based on language of concentration: Chinese, Hindi and Urdu, Japanese, Korean, Hmong. Each introduces a broad range of language, literary, and cultural texts. The deeper, concentrated study in upper-level courses leads to the senior project. Study abroad is strongly encouraged and can contribute credit to the major.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Chinese, or Hindi/Urdu, or Japanese, or Korean, or Hmong.

Note: Students must elect a sub-plan based on their language of concentration. Each sub-plan requires a minimum of two courses of the same language at the advanced level (third year) or above. Students with advanced or native language ability may substitute ALL 3xxx-5xxx literature/culture courses in lieu of the major language requirement; see departmental adviser for final consent. All major coursework must be taken A-F. An overall GPA of 2.00 must be maintained across all major coursework. At least 18 of the total 35 credits required for the major must be completed in residence at the University of Minnesota - Twin Cities, campus.

Students may earn a B.A. or a minor in Asian languages and literatures, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Reading Asian Cultures

ALL 3001 - Reading Asian Cultures (3.0 cr)

Asian Languages and Literatures (ALL) Courses

Transfer or study abroad credit may NOT be used to fulfill this sub-requirement.
Take 2 or more course(s) totaling 6 or more credits(s) from the following:

- ALL 3xxx
- ALL 5xxx

ALL Modern and Classical Courses

Classical Courses

Take 1 or more course(s) totaling 3 or more credits(s) from the following:

- ALL 1001 - Asian Film and Animation (3.0 cr)
- ALL 3014W - Art of India [AH, GP, WI] (4.0 cr)
- ALL 3232W - "Short" Poetry in China and Japan [WI] (3.0 cr)
- ALL 3261W - Writing (in) East Asian Cultures: From Oracle Bones to Tattoos [AH, WI] (3.0 cr)
- ALL 3265W - The Fantastic in East Asia: Ghosts, Foxes, and the Alien [LITR, WI] (3.0 cr)
- ALL 3334 - Voices from Ancient China: The Book of Songs and The Songs of the South [LITR] (3.0 cr)
- ALL 3361W - Maps, Pictures, and Writing in the Representation of Taiwan [AH, GP, WI] (3.0 cr)
- ALL 3371 - History of Chinese Cities and Urban Life (3.0 cr)
- ALL 3373 - Religion and Society in Imperial China (3.0 cr)
- ALL 3433W - Traditional Japanese Literature in Translation [LITR, WI] (3.0 cr)
- ALL 3441W - Japanese Theater [AH, WI] (3.0 cr)
- ALL 3632 - Readings in Indian Epic Traditions: Islamic Epic and Romance (3.0 cr)
- ALL 3671 - Hinduism (3.0 cr)
- ALL 3672 - Buddhism [GP] (3.0 cr)
- ALL 3771 - History of Southeast Asia [GP] (3.0 cr)
- ALL 3920 - Topics in Asian Culture (3.0 cr)
- ALL 5211 - Introductory Classical Chinese (3.0 cr)
- ALL 5212 - Introductory Classical Chinese (3.0 cr)
- ALL 5261 - Work of Translation: Theory, Function, and Practice (3.0 cr)
- ALL 5920 - Topics in Asian Culture (3.0 - 4.0 cr)

Modern Courses

Take 1 or more course(s) totaling 3 or more credits(s) from the following:

- ALL 1001 - Asian Film and Animation (3.0 cr)
- ALL 3232W - "Short" Poetry in China and Japan [WI] (3.0 cr)
- ALL 3261W - Writing (in) East Asian Cultures: From Oracle Bones to Tattoos [AH, WI] (3.0 cr)
- ALL 3337 - Chinese Literature and Popular Culture Today [LITR, GP] (3.0 cr)
- ALL 3356W - Chinese Film [AH, WI] (3.0 cr)
- ALL 3361W - Maps, Pictures, and Writing in the Representation of Taiwan [AH, GP, WI] (3.0 cr)
- ALL 3371 - History of Chinese Cities and Urban Life (3.0 cr)
- ALL 3436 - Postwar Japanese Literature in Translation (3.0 cr)
- ALL 3437 - Early 20th Century Japanese Literature in Translation (3.0 cr)
- ALL 3441W - Japanese Theater [AH, WI] (3.0 cr)
- ALL 3456 - Japanese Film [GP] (3.0 cr)
- ALL 3466 - Japanese Popular Culture in a Global Context (3.0 cr)
- ALL 3478 - Modern Japan, Meiji to the Present (1868-2000) [HIS] (3.0 cr)
- ALL 3536 - Modern Korean Literature [LITR, GP] (3.0 cr)
- ALL 3556 - Korean Film (3.0 cr)
- ALL 3632 - Readings in Indian Epic Traditions: Islamic Epic and Romance (3.0 cr)
- ALL 3637W - Modern South Asian Literature [WI] (3.0 cr)
- ALL 3671 - Hinduism (3.0 cr)
- ALL 3672 - Buddhism [GP] (3.0 cr)
- ALL 3676 - Culture and Society of India [GP, SOCS] (3.0 cr)
- ALL 3679 - Religion and Society in Modern South Asia (3.0 cr)
- ALL 3771 - History of Southeast Asia [GP] (3.0 cr)
- ALL 3836 - Persian Fiction in Translation (3.0 cr)
- ALL 3920 - Topics in Asian Culture (3.0 cr)
- ALL 5211 - Introductory Classical Chinese (3.0 cr)
- ALL 5212 - Introductory Classical Chinese (3.0 cr)
- ALL 5261 - Work of Translation: Theory, Function, and Practice (3.0 cr)
- ALL 5276 - Liberalism and Its Critics: Global Perspectives (3.0 cr)
- ALL 5836 - Persian Fiction in Translation (3.0 cr)
- ALL 5920 - Topics in Asian Culture (3.0 - 4.0 cr)

Major-related Electives

Take at least two major-related electives in the arts, humanities, or social sciences. Non-ALL, Asian language beyond the advanced level, study abroad or transfer courses may count with previous adviser approval. Note: up to one ALL 1xxx-level course may count toward the major.

Take 2 or more course(s) totaling 6 or more credits(s) from the following:

- ALL 1xxx
- ALL 3xxx
- ALL 5xxx

Other Electives

Take at least one other Asian language, literature, or culture course. Additional coursework may be needed to meet the minimum 35-credit requirement for graduation. Students may also count non-ALL, learning abroad, transfer, and 1- or 2-credit courses towards 'Other Electives.' See department adviser for final consent. Note: up to one ALL 1xxx course may count toward the major.

Take 1 or more course(s) totaling 1 or more credits(s) from the following:

- ALL 1xxx
- ALL 3xxx
- ALL 5xxx

Major Project

The major project is completed in ALL 4900W during the student's final year of coursework. Registrants must have senior status or instructor permission to enroll. Double majors who choose to complete the major project in their other major must still meet the minimum 35-credit requirement in ALL.

ALL 4900W - Major Project [WI] (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Chinese

Chinese Language

Take a minimum of 2 courses (7 credits) of Chinese at the advanced level or above.

Take 2 or more course(s) from the following:

- CHN 3031 - Advanced Modern Chinese (4.0 cr)
- CHN 3032 - Advanced Modern Chinese (4.0 cr)
- CHN 4041 - Advanced Readings in Modern Chinese (4.0 cr)
- CHN 4042 - Advanced Readings in Modern Chinese (4.0 cr)
- CHN 5040 - Readings in Chinese Texts (3.0 cr)

Japanese

Japanese Language

Take a minimum of 2 courses (7 credits) of Japanese at the advanced level or above.

Take 2 or more course(s) from the following:

- JPN 3031 - Third-Year Japanese (4.0 cr)
- JPN 3032 - Third Year Japanese (4.0 cr)
- JPN 4041 - Advanced Japanese Conversation and Composition (4.0 cr)
- JPN 4042 - Advanced Japanese Conversation and Composition (4.0 cr)
- JPN 5040 - Readings in Japanese Texts (3.0 cr)

Korean

Korean Language

Take a minimum of 2 courses (7 credits) of Korean at the advanced level or above.

Take 2 or more course(s) from the following:

- KOR 3031 - Third Year Korean (4.0 cr)
- KOR 3032 - Third Year Korean (4.0 cr)
- KOR 4041 - Advanced Readings in Modern Korean (4.0 cr)
- KOR 4042 - Advanced Readings in Modern Korean (4.0 cr)
- KOR 5140 - Readings in Sino-Korean Texts (3.0 cr)

Hindi-Urdu

Hindi & Urdu Languages

Take a minimum of 2 courses (7 credits) of Hindi-Urdu at the advanced level of above

Take 2 or more course(s) from the following:

- HNUR 3131 - Advanced Hindi and Urdu (4.0 cr)
- HNDI 4162 - Advanced Hindi (4.0 cr)
- HNDI 5040 - Readings in Hindi/Urdu Texts (3.0 cr)

Hmong

Hmong Language

Take a minimum of 2 courses (7 credits) of Hmong at the advanced level or above. Note: In order to fulfill this sub-requirement, HMNG 5040 must be taken for at least 3 credits.

Take 2 or more course(s) from the following:
- HMNG 3031 - Advanced Hmong (4.0 cr)
- HMNG 3032 - Advanced Hmong (4.0 cr)
- HMNG 5040 - Readings in Hmong Texts (2.0 - 4.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Astrophysics B.A.

Astrophysics, Minnesota Institute for

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 49 to 51
- Degree: Bachelor of Arts

The program in astrophysics develops the skills necessary to tackle complex and ill-defined problems within the physical sciences and prepares students for careers in several broad areas. The program is aimed primarily for students interested in secondary education in the physical sciences, science policy, and science and technical writing. The program can also prepare students for graduate study in astrophysics.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 7 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Mathematics

Complete one pair of courses from the following sequence.

Calculus Sequence I

MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)

or **Calculus Sequence II**

MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1372 - CSE Calculus II (4.0 cr)

or **Calculus Honors Sequence**

MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1572H - Honors Calculus II (4.0 cr)

Complete one pair of courses from the following sequence.

Linear Algebra & Multivariable Calculus Sequence I

MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)

or **Linear Algebra & Multivariable Calculus Sequence II**

MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)
MATH 2374 - CSE Multivariable Calculus and Vector Analysis (4.0 cr)

or **Linear Algebra & Multivariable Calculus Honors Sequence**

MATH 2573H - Honors Calculus III (4.0 cr)
MATH 2574H - Honors Calculus IV (4.0 cr)

Preparatory Physics

Complete three courses from either physics sequence.

Physics Sequence

PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
PHYS 2503 - Physics III: Intro to Waves, Optics, and Special Relativity (4.0 cr)

or **Physics Honors Sequence**

PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)
PHYS 2403H - Honors Physics III (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

AST 1011H is recommended but not required. The number of credits in the major varies by area of interest, but requires at least 15 credits of AST courses.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Students may earn no more than one undergraduate degree from the Astrophysics program: a B.A. or a B.S. or a minor.

Major Courses

Each of the different areas of interest has the same core math, physics, and astrophysics requirements. Curriculum details for the different areas--secondary education, science writing, science policy, and scientist--are developed by the student in consultation with an adviser.

AST 2001 - Introduction to Astrophysics (4.0 cr)
PHYS 2201 - Introductory Thermodynamics and Statistical Physics (3.0 cr)
PHYS 2601 - Quantum Physics (4.0 cr)
PHYS 2605 - Quantum Physics Laboratory (3.0 cr)
PHYS 4001 - Analytical Mechanics (4.0 cr)
PHYS 4002 - Electricity and Magnetism (4.0 cr)

Electives

AST 4001 - Astrophysics I (4.0 cr)
AST 4002 - Astrophysics II (4.0 cr)
MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)
Take 12 or more credits(s) from the following:
- AST 4xxx
- AST 5xxx

Senior Project

This requirement can be met with directed research in astrophysics or a project tailored to the specific area of interest.

AST 4994W - Directed Research [WI] (3.0 - 5.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Bachelor of Individualized Studies B.I.S.

College of Liberal Arts - Adm

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Individualized Studies

The B.I.S. provides flexibility in a student's degree program by allowing him or her to focus coursework on three areas, one of which may consist of courses outside CLA. The areas do not have to be related to each other, but the program proposal must explain how the areas of study connect to the student's overall educational goals.

Working closely with a B.I.S. adviser, students develop a written proposal and course list. The proposal must be approved by a committee and three faculty or department advisers with expertise in the areas of concentration. Some departments and colleges have prerequisite or required courses for concentrations based in those departments and colleges in their B.I.S. program.

For specific information on proposal procedures and on department and college guidelines, see the Individualized Degree Programs website http://idp.class.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For certain concentrations, prerequisite courses must be completed before submitting a program proposal. For certain concentrations, a minimum overall GPA or a minimum tool course GPA is required before a student can submit a program proposal.

Students can declare the degree after attending an information session (held two to three times a week) and preparing a preliminary course list. Students are not approved for the degree until they have submitted a program proposal (the submission deadline is once per semester) and the proposal has been approved by a committee and faculty or department advisers.

See a BIS adviser for more information.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students must complete at least 50 approved credits at or above 3xxx, distributed among the three concentrations. The concentrations may be departmental or thematic in composition, and each must include at least 15 credits. Up to 21 credits in the program may be from outside CLA.

Students must have their program approved by a committee and three faculty or department advisers. At least 20 credits in the major must be completed after the program has been approved. No more than 12 credits of directed study may be applied toward the program. The CLA requirement of 18 credits at or above 3xxx outside the major does not apply.

Students are required to complete an analytic paper in one of their CLA areas of concentration.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses
First Concentration Area
Second Concentration Area
Third Concentration Area
Senior paper: 2,500-word analytic paper written in conjunction with a CLA course in the B.I.S. program.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project their final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Biology, Society, and Environment B.A.

Geography

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 68 to 82
- Degree: Bachelor of Arts

Students in Biology, Society, and Environment (BSE) receive comprehensive training in biology combined with an in-depth examination of the relevance of biology to social and environmental problems. Students complete coursework in the biological sciences, social sciences, and the humanities.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

The major curriculum includes courses in biology, chemistry, physics, and mathematics. Note: A course may only be counted once to satisfy the major requirements.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

BSE 3001

BSE 3001 - An Introduction to Biology, Society, and Environment (2.0 cr)

Core Courses

Students must take one course in two of three areas: Ethics, Scientific Thought and Inquiry, and Science in Society. No more than one course from any one area may count.

Take exactly 2 course(s) totaling 6 or more credits(s) including exactly 2 sub-requirements(s) from the following:

- **Ethics**
  - Take no more than 1 course(s) from the following:
  - BTHX 5325 - Biomedical Ethics (3.0 cr)
  - ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
  - HSCI 3401 - Ethics in Science and Technology [HIS, CIV] (3.0 cr)
  - PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
  - PHIL 3305 - Medical Ethics (4.0 cr)
- **Scientific Thought and Inquiry**
  - Take no more than 1 course(s) from the following:
  - PHIL 1005 - Scientific Reasoning (4.0 cr)
  - PHIL 3601W - Scientific Thought [WI] (4.0 cr)
  - PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
- **Science in Society**
  - Take no more than 1 course(s) from the following:
  - GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)

•HMED 3040 - Human Health, Disease, and the Environment in History [HIS] (3.0 cr)
•HMED 3075 - Technology and Medicine in Modern America [HIS, TS] (3.0 - 5.0 cr)
•HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)
•HSCI 3332 - Science and American Culture [HIS, DSJ] (3.0 cr)
•PHIL 3302W - Moral Problems of Contemporary Society [CIV, WI] (4.0 cr)
•PHIL 3602 - Science, Technology, and Society (3.0 cr)

General Biology
Take BIOL 1009 and one course from the multidisciplinary science sequence, or the 2-course animal biology sequence or the 2-course plant biology sequence for a minimum of 7 credits.
BIOL 1009 - General Biology [BIOL] (4.0 cr)
Multidisciplinary Science
ANTH 1001 - Human Evolution [BIOL] (4.0 cr)
or BIOL 2012 - General Zoology (4.0 cr)
or BIOL 2022 - General Botany (3.0 cr)
or PHSL 3051 - Human Physiology (4.0 cr)
or VBS 2032 - General Microbiology With Laboratory (5.0 cr)
or **Animal Biology**
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)
BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
or **Plant Biology**
BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)

Additional Science Requirements
Take eight courses for 22-23 credits.
BIOC 3021 - Biochemistry (3.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
Chemistry I
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
Chemistry II
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)
Calculus
MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)

Biology Concentration (Major Courses)
Take two courses from the upper-division biology core list and take two additional upper-level courses in biology, anthropology, geography, chemistry, or other discipline chosen in consultation with an adviser. Courses for the biology concentration should have a biology orientation and should fit with the intended theme. A total of 14 credits must be completed. Note: Many pre-health science programs require Organic Chemistry II and lab.
Upper-Division Biology Concentration
Take 2 or more course(s) from the following:
•BIOL 4004 - Cell Biology (3.0 cr)
•**Genetics**
•BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)
•**Ecology**
•BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
or BIOL 3807 - Ecology (4.0 cr)
Sample Concentration Electives
Take 2 or more course(s) from the following:
•ANAT 3001 - Human Anatomy (3.0 cr)
•ANTH 3310 - Topics in Biological and Physical Anthropology (3.0 - 6.0 cr)
•BIOL 3409 - Evolution (3.0 cr)

- BIOL 4004 - Cell Biology (3.0 cr)
- CHEM 2302 - Organic Chemistry II (3.0 cr)
- EEB 4609W - Ecosystem Ecology [ENV, WI] (3.0 cr)
- GCD 4143 - Human Genetics (3.0 cr)
- GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
- MICB 3301 - Biology of Microorganisms (5.0 cr)
- PHSL 3051 - Human Physiology (4.0 cr)
- **Organic Chemistry**
  - CHEM 2311 - Organic Lab (4.0 cr)
  - *or* CHEM 2312H - Honors Organic Lab (5.0 cr)
- **Ecology**
  - BIOL 3407 - Ecology (3.0 cr)
  - *or* BIOL 3408W - Ecology [WI] (3.0 cr)
- GCD 3022 - Genetics (3.0 cr)
  - *or* BIOL 4003 - Genetics (3.0 cr)

Theme Requirements

Take five courses from the list below or substitute courses in consultation with a BSE adviser. Courses should serve to put "science into context" and should focus on a theme.

Some examples of thematic concentrations might be ethics, economics, and the politics of health care; the global environment; biology and the U.S. government; communicating biology to the public.

Take 5 or more course(s) totaling 15 or more credits(s) from the following:

- ANTH 3306W - Medical Anthropology [GP, WI] (3.0 cr)
- GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
- GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
- GEOG 3411W - Geography of Health and Health Care [WI] (4.0 cr)
- GEOG 4121W - Latin America [WI] (4.0 cr)
- GLOS 3305 - Life for Sale: Global Debates on Environment, Science, and Society (3.0 cr)
- HMED 3040 - Human Health, Disease, and the Environment in History [HIS] (3.0 cr)
- HMED 3075 - Technology and Medicine in Modern America [HIS, TS] (3.0 - 5.0 cr)
- HMED 5002 - Public Health Issues in Historical Perspective (3.0 cr)
- HSCI 3211 - Biology and Culture in the 19th and 20th Centuries [HIS] (3.0 cr)
- HSCI 3244 - History of Ecology and Environmentalism [HIS, ENV] (3.0 cr)
- HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)
- HSCI 3332 - Science and American Culture [HIS, DSJ] (3.0 cr)
- HSCI 3333V - Honors Course: Issues in American Science and Technology in the Past Century [HIS, CIV, WI] (3.0 cr)
- HSCI 3401 - Ethics in Science and Technology [HIS, CIV] (3.0 cr)
- HSCI 4060 - Special Topics in History of Technology (3.0 cr)
- JOUR 3745 - Mass Media and Popular Culture [AH, DSJ] (3.0 cr)
- PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
- PHIL 3302W - Moral Problems of Contemporary Society [CIV, WI] (4.0 cr)
- PHIL 3304 - Law and Morality (4.0 cr)
- PHIL 3305 - Medical Ethics (4.0 cr)
- PHIL 3601W - Scientific Thought [WI] (4.0 cr)
- PHIL 3602 - Science, Technology, and Society (3.0 cr)
- PHIL 3607 - Philosophy of Psychology (4.0 cr)
- PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
- PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
- PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
- URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
- WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
- HMED 3001V - Health, Disease, and Healing I [HIS, WI] (4.0 cr)
  - *or* HMED 3001W - Health, Disease, and Healing I [HIS, WI] (4.0 cr)
  - *or* HMED 5200 - Early History of Medicine to 1700 (3.0 cr)
- HMED 3002W - Health Care in History II [HIS, WI] (3.0 cr)
  - *or* HMED 5201 - History of Medicine from 1700 to 1900 (3.0 cr)
- HMED 3055 - Women, Health, and History (3.0 cr)
  - *or* HMED 5055 - Women, Health, and History (3.0 cr)
- PSY 3604 - Introduction to Abnormal Psychology (3.0 cr)
- PSY 3061 - Introduction to Biological Psychology (3.0 cr)
- PSY 3135 - Introduction to Individual Differences (3.0 cr)
  - *or* PSY 5135 - Psychology of Individual Differences (3.0 cr)

Senior Project

The senior project may be fulfilled by registering according to one of the options listed below. Note: For GEOG 3994, students register for 3 credits of directed research with the BSE director of undergraduate studies.
1. Register for 2 additional credits in any upper division course taken
or 2. Register for 3 credits of directed research with a faculty member having special expertise in the subject of the proposed project.
or GEOG 3994 - Directed Research (1.0 - 8.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Chemistry B.A.

Chemistry

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 59 to 67
- Degree: Bachelor of Arts

An active, modern program of chemical education at the undergraduate level must do more than simply train professional chemists. Chemistry, the central science, is an important component of many disciplines and should be accessible to all students seeking a liberal education. The chemistry department contributes actively to increasing the level of scientific literacy of all students. The program also serves students by recognizing different needs, interests, and career goals.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may receive no more than one degree from the Department of Chemistry: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Mathematics

Take 3 courses for 12 credits.

MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1372 - CSE Calculus II (4.0 cr)
or MATH 1572H - Honors Calculus II (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)
or MATH 2374 - CSE Multivariable Calculus and Vector Analysis (4.0 cr)
or MATH 2573H - Honors Calculus III (4.0 cr)

Physics

Take 2 courses for 8-10 credits.

PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)

Preparatory Courses

Take 6 courses for 13 credits.
CHEM 2101 - Introductory Analytical Chemistry Lecture (3.0 cr)
CHEM 2111 - Introductory Analytical Chemistry Lab (2.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)

Major Courses
Take 6 courses for 19-20 credits.
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 4501 - Introduction to Thermodynamics, Kinetics, and Statistical Mechanics (3.0 cr)
CHEM 4502 - Introduction to Quantum Mechanics and Spectroscopy (3.0 cr)
CHEM 4701 - Inorganic Chemistry (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
or CHEM 2312H - Honors Organic Lab (5.0 cr)

Advanced Chemistry Laboratory Electives or Research
Take two advanced chemistry electives for a total of 4-9 credits. Only one directed study may count (CHEM 2094 or 4094W or 4094V), and must be taken for a minimum of 2 credits. If directed study is chosen, honors students should enroll in 4094V.
Take 2 or more course(s) from the following:
- CHEM 4111W - Modern Instrumental Methods of Chemical Analysis Lab [WI] (2.0 cr)
- CHEM 4311W - Advanced Organic Chemistry Lab [WI] (4.0 cr)
- CHEM 4511W - Advanced Physical Chemistry Lab [WI] (3.0 cr)
- CHEM 4711W - Advanced Inorganic Chemistry Lab [WI] (3.0 cr)
- CHEM 4223W - Polymer Laboratory [WI] (2.0 cr)
- CHEM 2094 - Directed Research (1.0 - 3.0 cr)
- CHEM 4094W - Directed Research [WI] (1.0 - 5.0 cr)
- CHEM 4094V - Directed Research [WI] (1.0 - 5.0 cr)

Electives
Take at least 3 credits of 3xxx-5xxx courses in chemistry, biology, biochemistry, genetics, cell biology, chemical engineering, materials science, math, physics, public health, or statistics.

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Chicano-Latino Studies B.A.

Chicano Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- Degree: Bachelor of Arts

The program's curriculum explores the dimensions of race, ethnicity, culture and identity, gender, and class in the United States, both historically and in contemporary times. Chicano-Latino studies majors take courses offered in two broadly defined fields of study, humanities and social science. Humanities content includes courses designed to increase awareness of Chicana/o culture, as well as intellectual, aesthetic, literary, historical, ethical, and human values. Social science content includes courses that analyze social institutions and how they affect the individual, as well as emphasize contemporary Chicana/o issues as they relate to the larger society. Areas of study include political science, anthropology, economics, sociology, and history. The bachelor of arts degree in Chicano-Latino studies is designed to meet the needs of students preparing for careers serving Chicana/o-Latina/o constituencies and to prepare students for graduate and advanced professional study in programs in which a minority affairs focus would be an asset. The program allows students the flexibility of pursuing work in related fields, such as Latin American studies, Spanish studies, Women's studies, and American studies. Double-majors are encouraged.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Spanish (preferred).

Students should confer with faculty and their major adviser to select courses intended to meet their professional goals and intellectual interests. With approval of the department chair, up to 9 upper-division credits (3 courses) related to the discipline may be taken outside the department and counted toward the major. CHIC 1112 is foundational and should be completed during the first or second year. Courses at 3xxx offer more focused opportunities to examine history, society, culture, literature, and gender. Majors must also complete a senior paper.

Students may earn a B.A. and a minor in chicano-latino studies, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Core Requirements

Take at least five courses for a total of 15 credits.
CHIC 1112 - Introduction to Chicana/o Studies: Critical Paradigms [DSJ] (3.0 cr)
CHIC 3212 - Chicana Studies: La Chicana in Contemporary Society [AH, DSJ] (3.0 cr)
CHIC 3275 - Service Learning in the Chicano/Latino Community [CIV] (3.0 cr)
or CHIC 3374 - Migrant Farmworkers in the United States: Families, Work, and Advocacy [CIV] (3.0 cr)
or CHIC 5374 - Migrant Farmworkers in the U.S.: Families, Work, and Advocacy [CIV] (3.0 cr)
CHIC 3213 - Chicano Music and Art (3.0 cr)

or CHIC 3507W - Introduction to Chicana/o Literature [LITR, DSJ, WI] (3.0 cr)
CHIC 3444 - Chicana and Chicano History: 1821-1945 [HIS, DSJ] (3.0 cr)
or CHIC 3446 - Chicana/o History II: WWII, El Movimiento, and the New Millennium [HIS, DSJ] (3.0 cr)

Electives

Take a total of 18 elective credits, of which at least 15 must be taken at the 3xxx-level or above. Up to 9 upper-division credits related to the discipline may be taken outside the major, previous approval from departmental chair is required. Any course taken in fulfillment of the Core sub-requirement may not count toward the Electives sub-requirement.
Take 18 or more credits(s) from the following:
•CHIC 1102 - Latinos in the United States: Culture and Citizenship [HIS, DSJ] (3.0 cr)
•CHIC 3213 - Chicano Music and Art (3.0 cr)
•CHIC 3221 - Introduction to Chicana/o Cultural Studies: Barrio Culture and the Aesthetics of Everyday Life [AH, DSJ] (3.0 cr)
•CHIC 3223 - Chicana/o and Latina/o Representation in Film [AH, DSJ] (3.0 cr)
•CHIC 3275 - Service Learning in the Chicano/Latino Community [CIV] (3.0 cr)
•CHIC 3352 - Transnational Chicana/o Theory: Global Views/Borderland Spaces (3.0 cr)
•CHIC 3375 - Folklore of Greater Mexico [DSJ] (3.0 cr)
•CHIC 3452 - Xicana/Indigena Studies: History, Culture, and Politics [DSJ] (3.0 cr)
•CHIC 3507W - Introduction to Chicana/o Literature [LITR, DSJ, WI] (3.0 cr)
•CHIC 3672 - Chicana/o Experience in the Midwest [DSJ] (3.0 cr)
•CHIC 3752 - Chicanas and Chicanos in Contemporary Society [DSJ] (3.0 cr)
•CHIC 3771 - Latino Social Power and Social Movements in the U.S. (3.0 cr)
•CHIC 3852 - Chicana/o Politics [SOCS, DSJ] (3.0 cr)
•CHIC 4231 - The Color of Public Policy: African Americans, American Indians, and Chicanos in the United States (3.0 cr)
•CHIC 4232 - Chicana/o - Latina/o Gender and Sexuality Studies [AH, DSJ] (3.0 cr)
•CHIC 4275 - Theory in Action: Community Engagement in a Social Justice Framework [CIV] (3.0 cr)
•CHIC 4401 - Chicana/Latina Cultural Studies (3.0 cr)
•CHIC 3374 - Migrant Farmworkers in the United States: Families, Work, and Advocacy [CIV] (3.0 cr)
or CHIC 5374 - Migrant Farmworkers in the U.S.: Families, Work, and Advocacy [CIV] (3.0 cr)
•CHIC 3993 - Directed Studies (1.0 - 9.0 cr)
or CHIC 5993 - Directed Studies (1.0 - 3.0 cr)

Senior Project

CHIC 4901W - Senior Paper [WI] (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Child Psychology B.A.

Institute of Child Development

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 37 to 42
- Degree: Bachelor of Arts

Child psychology deals with behavioral development from the prenatal period to maturity in the areas of cognition, ethology, genetics, language, learning, perception, and social behavior. The Institute of Child Development, housed in the College of Education and Human Development, offers a bachelor of arts, a bachelor of science, and a minor in child psychology through the College of Liberal Arts. All undergraduate child psychology courses are considered CLA courses and count toward the CLA graduation requirements. Majors may not receive a second major or baccalaureate degree in psychology nor apply psychology, educational psychology, or child and adolescent psychiatry credits to the minimum 18 upper-level credits required outside the major. These credits fall neither inside or outside the major.

The B.A. program places a stronger emphasis on the applied aspects of Child Psychology. Emphasizing a more applied approach to Child Psychology, the B.A. requires field study participation (or directed research experience), allowing students to gain practical experience in the field of Child Psychology. Students have the opportunity to take a course in Social Work, Youth Studies, Early Childhood Education, Public Health, or Cultural Anthropology. With a combination of intensive training in developmental psychology and a field study experience, the program prepares students for careers and additional training in such areas as early childhood education, counseling, and human service programs. Students are required to meet the second language requirement as determined by CLA.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 2 courses before admission to the program.

An introduction to psychology course must be completed before admission into the major. Students may formally declare the major with CPSY 2301 in progress.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
CPSY 2301 - Introductory Child Psychology (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn no more than one undergraduate degree in child psychology: a B.A. or a B.S. or a minor. Students may combine the B.A. in child psychology with the minor in psychology.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Foundational Courses
Take two courses for a total of 7-8 credits.
CPSY 3308W - Introduction to Research Methods in Child Psychology [WI] (4.0 cr)
EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Core Courses
Take a minimum of six courses and 18 credits. Note: other courses may count toward the ANTH 3003/CPSY 4993/PUBH 3004/SW 1001/YOST 2002W requirement only with previous adviser approval.
CPSY 4331 - Social and Personality Development (3.0 cr)
Take 1 or more course(s) from the following:
•ANTH 3003 - Cultural Anthropology (3.0 cr)
•CPSY 4993 - Directed Experiences in Early Childhood Education (3.0 cr)
•PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)
•SW 1001 - Introduction to the World of Social Work: A Global Perspective (3.0 cr)
Take 1 or more course(s) from the following:
•CPSY 4302 - Infant Development (3.0 cr)
•CPSY 4303 - Adolescent Psychology (3.0 cr)
•CPSY 4334W - Children, Youth in Society [WI] (3.0 cr)
•CPSY 4336W - Development and Interpersonal Relations [WI] (4.0 cr)
Take 1 or more course(s) from the following:
•CPSY 4311 - Behavioral and Emotional Problems of Children (3.0 cr)
•CPSY 4313 - Disabilities and Development (3.0 cr)
Take 2 or more course(s) from the following:
•CPSY 4341 - Perceptual Development (3.0 cr)
•CPSY 4343 - Cognitive Development (3.0 cr)
•CPSY 4345 - Language Development and Communication (3.0 cr)

Field Study or Directed Research
Take a minimum of 2 credits.
CPSY 4996 - Field Study in Child Psychology (1.0 - 4.0 cr)
or CPSY 4994 - Directed Research in Child Psychology (1.0 - 4.0 cr)

Senior Project
Honors students should consult the Honors UHP Program Sub-plan for senior project requirements.
CPSY 4347W - Senior Project [WI] (2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students in the Child Psychology B.A. degree program are required to take CPSY 3360H and CPSY 4994V. CPSY 4994V is taken in place of the non-honors senior project, CPSY 4347W.

Honors Seminar
CPSY 3360H should be taken at least one semester before CPSY 4994V.
CPSY 3360H - Child Psychology Honors Seminar (2.0 cr)
Senior Project
Take CPSY 4994V for 2-4 credits.
CPSY 4994V - Directed Research in Child Psychology (Honors Thesis) [WI] (1.0 - 6.0 cr)

Twin Cities Campus

Child Psychology B.S.

Institute of Child Development

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50 to 55
- Degree: Bachelor of Science

Child psychology deals with behavioral development from the prenatal period to maturity in the areas of cognition, ethology, genetics, language, learning, perception, and social behavior. The Institute of Child Development, housed in the College of Education and Human Development, offers a bachelor of arts, a bachelor of science, and a minor in child psychology through the College of Liberal Arts. All undergraduate child psychology courses are considered CLA courses and count toward the CLA graduation requirements. Majors may not receive a second major or baccalaureate degree in psychology.

The B.S. program places a stronger emphasis on research in the field of developmental psychology. With a combination of intensive training in developmental psychology and in-depth directed research, the program prepares students for graduate study in psychology, education, medicine, law, sociology, and other behavioral sciences.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 2 courses before admission to the program.

An introduction to psychology course must be completed before admission into the major. Students may formally declare the major with CPSY 2301 in progress.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Introduction to Psychology

PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)

Introduction to Child Psychology

CPSY 2301 - Introductory Child Psychology (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn no more than one undergraduate degree in child psychology: a B.A. or a B.S. or a minor. Students may combine the B.S. in child psychology with the minor in psychology.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Foundational Courses

Take two courses for a total of 7-8 credits.

CPSY 3308W - Introduction to Research Methods in Child Psychology [WI] (4.0 cr)
EPSY 3264 - Basic and Applied Statistics [MATH] (3.0 cr)
or SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)

Core Courses
Take a minimum of 9 courses and 27 credits. Take CPSY 4310 for a minimum of three credits.
CPSY 4310 - Special Topics in Child Development (1.0 - 4.0 cr)
CPSY 4331 - Social and Personality Development (3.0 cr)
CPSY 4329 - Biological Foundations of Development (3.0 cr)
Take 1 or more course(s) from the following:
•CPSY 4311 - Behavioral and Emotional Problems of Children (3.0 cr)
•CPSY 4313 - Disabilities and Development (3.0 cr)
Take 2 or more course(s) from the following:
•CPSY 4341 - Perceptual Development (3.0 cr)
•CPSY 4343 - Cognitive Development (3.0 cr)
•CPSY 4345 - Language Development and Communication (3.0 cr)
Note: CPSY 4996 may be taken for a maximum of three credits.
Take 3 or more course(s) from the following:
•CPSY 4302 - Infant Development (3.0 cr)
•CPSY 4303 - Adolescent Psychology (3.0 cr)
•CPSY 4334W - Children, Youth in Society [WI] (3.0 cr)
•CPSY 4336W - Development and Interpersonal Relations [WI] (4.0 cr)
•CPSY 4996 - Field Study in Child Psychology (1.0 - 4.0 cr)

Directed Research
Take a minimum of 6 credits of CPSY 4994.
CPSY 4994 - Directed Research in Child Psychology (1.0 - 4.0 cr)

Senior Project
Honors students should consult the Honors UHP Program Sub-plan for their senior project requirements.
CPSY 4347W - Senior Project [WI] (2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students in the Child Psychology B.S. program are required to take CPSY 3360H and CPSY 4994V. CPSY 4994V is taken in place of the non-honors senior project, CPSY 4347W.

Honors Seminar
CPSY 3360H should be taken at least one semester before CPSY 4994V.
CPSY 3360H - Child Psychology Honors Seminar (2.0 cr)
Senior Project
Take CPSY 4994V for 2-4 credits.
CPSY 4994V - Directed Research in Child Psychology (Honors Thesis) [WI] (1.0 - 6.0 cr)

Twin Cities Campus

Classical and Near Eastern Archaeology B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- **Students will no longer be accepted into this program after Fall 2011. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- This program requires summer terms.
- Degree: Bachelor of Arts

This major allows students to concentrate their studies on the material remains from the ancient civilizations of Greece, Rome, Egypt, and Biblical lands from ca. 3000 B.C.E. though 650 C.E. The program includes courses from classical and near eastern studies, anthropology, art history, geography, geology, and history.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Greek, Hebrew, or Latin.

Preparatory Courses

CNES 3152 - Art and Archaeology of Ancient Greece (4.0 cr)
CNES 3162 - Roman Art and Archaeology [HIS] (3.0 cr)
CNES 1043 - Introduction to Greek and Roman Archaeology (4.0 cr)
or CNES 3008 - History of Ancient Art (4.0 cr)
CNES 3104 - Ancient Rome: Kings and Consuls (3.0 cr)
or CNES 3105 *{Inactive}*(3.0 cr)
or CNES 3107 - Age of Constantine the Great (3.0 cr)
or CNES 3108 - Age of St. Augustine of Hippo (3.0 cr)
or HIST 3051 - Ancient Civilization: Near East and Egypt [HIS] (3.0 cr)
or HIST 3052 - Ancient Civilization: Greece (3.0 cr)
or HIST 3053 - Ancient Civilization: Rome [HIS] (3.0 cr)
or HIST 3061 - "Bread and Circuses": Spectacles and Mass Culture in Antiquity (3.0 cr)
or HIST 3502 - Ancient Israel: From Conquest to Exile (3.0 cr)
or HIST 3930 - Topics in Ancient History (3.0 cr)
or HIST 4051 *{Inactive}*(3.0 cr)
or HIST 4052 *{Inactive}*(3.0 cr)
or HIST 4061 *{Inactive}*(3.0 cr)
or HIST 4062 *{Inactive}*(3.0 cr)
or HIST 4071 - History of Rome to 78 B.C. (3.0 cr)
or HIST 4072 - History of Rome: 78 B.C. to A.D. 117 (3.0 cr)
or HIST 4073 - History of Rome: A.D. 117 to 641 (3.0 cr)
or HIST 5051 - Before Herodotus: History and Historiography of Mesopotamia and the Ancient Near East (3.0 cr)

or HIST 5053 - Doing Roman History: Sources, Methods, and Trends (3.0 cr)
or HIST 5930 - Topics in Ancient History (1.0 - 4.0 cr)
or HIST 5933 - Seminar in Ancient History (3.0 cr)

Major Courses

Five courses must be taken from Groups 1-3, with at least one course from each group. Remaining courses may be selected from courses in Groups 1-3 not used to fulfill the five-course requirement, from courses in the preparatory course list that are not used to fill that requirement, from selected courses in anthropology, or from any 3xxx-5xxx course in CNES or RELA. Course selections are subject to the approval of the director of undergraduate studies.

Take 8 or more course(s) totaling 24 or more credits(s) from the following:

- Take 5 or more course(s) including 3 or more sub-requirements(s) from the following:
  - **Group 1 - The Classical World**
    - Take 1 or more course(s) from the following:
    - CNES 5111 *{Inactive}*(3.0 cr)
    - CNES 5112 *{Inactive}*(3.0 cr)
    - CNES 5103 *{Inactive}*(3.0 cr)
    - CNES 5108 - Greek Architecture (3.0 cr)
    - CNES 5172 - House, Villa, Tomb: Roman Art in the Private Sphere (3.0 cr)
    - CNES 5182 *{Inactive}*(3.0 cr)
  - **Group 2 - The Near East**
    - Take 1 or more course(s) from the following:
    - CNES 3142 - Art of Egypt (4.0 cr)
    - CNES 3172 - Archaeology of Israel (3.0 cr)
  - **Group 3 - Field/Lab Work**
    - Take 1 or more course(s) from the following:
    - ANTH 4069 *{Inactive}*(3.0 cr)
    - CNES 3340 *{Inactive}*(3.0 cr)
    - CNES 5120 *{Inactive}*(3.0 - 6.0 cr)
    - CNES 5340 *{Inactive}*(3.0 cr)
- **Electives**
  - Take 0 - 3 course(s) from the following:
  - ANTH 3009 - Rise of Civilization [HIS] (3.0 cr)
  - ANTH 3027W - Archaeology of Prehistoric Europe [HIS, WI] (3.0 cr)
  - ANTH 3028 - Introduction to Historical Archaeology (3.0 cr)
  - ANTH 4043 *{Inactive}*(4.0 cr)
  - ANTH 4069 *{Inactive}*(3.0 cr)
  - ANTH 5027W - Origins of European Civilization [HIS, WI] (3.0 cr)
  - CNES 3xxx
  - CNES 4xxx
  - CNES 5xxx

Senior Project

Students who complete another CLA major may substitute 4 credits of appropriate coursework at 3xxx or above for the CNES senior project.

CNES 3951W - Major Project [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Classical Civilization B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- Degree: Bachelor of Arts

This interdisciplinary program encompasses the study of Greek and Roman cultures and their influence on Western civilization, and it encourages study of related or parallel cultures, such as those of Islam and the Indian subcontinent. It provides a comprehensive alternative to more specialized majors that focus primarily on one aspect, or subject matter of classical antiquity, and the spheres of its influence, such as art, archaeology, history, philosophy, literature, or a narrower span of historical periods. The program enables students to investigate classical civilization and its heritage from several perspectives and become acquainted with the aims and methods of several disciplines.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Greek or Latin.

Eight of the twelve approved courses (24 of 36 credits in the major) must be 3xxx or higher. Two of the courses must have the CLCV designator. All courses must be chosen in consultation with an adviser and approved by the department. Students may earn a B.A. or a minor in classical civilization, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Language and Literature

Take three courses in the language and literature of the classical world.

Art, Art History, and Archaeology

Take three courses focusing on the art, art history, and archaeology of the classical world.

Thought and Religion

Take two courses on the thought and religions of the classical world.

Classical Traditions

Take two courses on classical traditions.

Electives

Take two to four related elective courses.

Senior Project

The senior project is defined by the student in consultation with an adviser. Students may register for one to three credits of directed study while working on the project, but they are not required to do so.

Senior Project

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Communication Studies B.A.

Communication Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 34
- Degree: Bachelor of Arts

This program examines human communication using humanistic and social scientific methods. Fields of study include speech writing, rhetorical criticism, ethics, interpersonal, small group, organizational, intercultural, and electronic (broadcasting, cable, satellite, Internet) forms of communication. Students intending to declare a major must meet with a communication studies adviser. Students are strongly encouraged to declare their major during the first or second year. Students intending to declare a communication studies major must first meet with an adviser in 274 Ford Hall.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn a B.A. or a minor in communication studies, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Introductory Courses

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
COMM 1313W - Analysis of Argument [WI] (3.0 cr)

Core Courses

Take 2 or more course(s) totaling 6 or more credits(s) from the following:
•COMM 3211 - Introduction to U.S. Electronic Media (3.0 cr)
•COMM 3401 - Introduction to Communication Theory (3.0 cr)
•COMM 3601 - Introduction to Rhetorical Theory [C/PE] (3.0 cr)

Performative Electives

Required Performance Elective

Take at least one of the following courses for a minimum of 3 credits. Note: in order for COMM 3990 to count as a performative elective, it must be taken for at least 3 credits.
COMM 3201 - Introduction to Electronic Media Production (3.0 - 4.0 cr)
or COMM 3411 - Introduction to Small Group Communication (3.0 cr)
or COMM 3422 - Interviewing and Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
or COMM 3990 - Research Practicum (1.0 - 3.0 cr)

Upper-division Elective

Take 1 or more course(s) from the following:

•COMM 4xxx
•COMM 5xxx

Additional Communications Studies Electives

In addition to the above requirements and the senior project, take as many COMM 3xxx-5xxx credits as needed to reach the 34-credit graduation requirement.
Take 0 or more course(s) from the following:
•COMM 3xxx
•COMM 4xxx
•COMM 5xxx

Senior Project

The senior project is fulfilled by completing a senior paper. The senior paper can be written in any COMM 4xxx or 5xxx course. COMM 3995W, an S-N only, senior paper course, must be taken during the same semester in which the senior paper is written.
COMM 3995W - Major Project [WI] (1.0 - 3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Computer Science B.A.

Computer Science and Engineering

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 55
- Degree: Bachelor of Arts

Computer science concerns the study of the hardware, software, and theoretical aspects of high-speed computing devices and the application of these devices to a broad spectrum of scientific, technological, and business problems. The curriculum gives students a basic understanding of computer science. After completing a required set of fundamental courses, students can arrange their subsequent work around one of several emphases within computer science. The program prepares students for a variety of industrial, governmental, and business positions involving the use of computers, or for graduate work in the field.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 5 courses before admission to the program.

Freshman and transfer students are usually admitted to pre-major status before admission to this major

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Mathematics and Computer Science

CSCI 1902 - Structure of Computer Programming II (4.0 cr)
CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)
CSCI 1901 - Structure of Computer Programming I (4.0 cr)
or CSCI 1901H - Honors Structure of Computer Programming (4.0 cr)
MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1372 - CSE Calculus II (4.0 cr)
or MATH 1572H - Honors Calculus II (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may complete no more than one degree in the computer science program: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

CSCI 2021 - Machine Architecture and Organization (4.0 cr)
CSCI 2033 - Elementary Computational Linear Algebra (4.0 cr)
CSCI 4041 - Algorithms and Data Structures (4.0 cr)

CSCI 4061 - Introduction to Operating Systems (4.0 cr)
STAT 3021 - Introduction to Probability and Statistics (3.0 cr)

Electives
No more than 3 credits from CSCI 4970 or 59xx courses may count toward the elective requirement.
Take 12 or more credits(s) from the following:
•CSCI 4xxx
•CSCI 5xxx

Senior Project
CSCI 3081W - Program Design and Development [WI] (4.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Cultural Studies and Comparative Literature B.A.

Cultural Studies & Comparative Literature

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 32
- Degree: Bachelor of Arts

Courses in the Department of Cultural Studies and Comparative Literature (CSCL) pursue questions and ways of knowing that cross traditional disciplinary boundaries. Students study culture as a set of complex connections and interrelations: between texts and everyday life, ideas and the material world, discourse and power.

The CSCL major strives for a broad, international scope, ranging widely across history and geography. The central focus is on the cultural mechanisms through which a society's ways of knowing, value systems, and individual and collective identities are generated, disseminated, challenged, and reinvented. The goal of the program is to produce critical and self-critical readers prepared to actively participate in the intellectual conversations and social struggles that shape global culture in our time.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students must complete a minimum of 10 courses for the major: 2 introductory (1xxx) courses, plus 7 upper-division courses. To allow for flexibility, the tenth course may be taken at any level.

Note for CSCL/CL/CSDS topics courses (3910, 5910), directed studies (3993, 4993, 5993), and internships: students may count a maximum of 3 toward the major, with no more than two in any one category (two topics courses; two directed studies/internships). Such courses may count as electives without prior approval, or as major courses with prior written approval from the CSCL undergraduate adviser or director of undergraduate studies. For both internships and directed studies, students work with a faculty member of their choice to complete and submit a Faculty/Student Contract outlining the goals and scope of coursework. The course number of the internship or directed study should be selected appropriate to the home department (3993, 4993, or 5993).

In exceptional cases, courses from other units may be substituted for department major courses if approved by the undergraduate adviser or the director of undergraduate studies. All major coursework must be taken A-F.

Students may earn a B.A. or a minor in cultural studies and comparative literature, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

CSCL 1001 - Introduction to Cultural Studies: Rhetoric, Power, Desire [AH, DSJ] (4.0 cr)
or CSCL 1101 - Literature [LITR] (4.0 cr)
or CSCL 1301W - Reading Culture: Theory and Practice [AH, WI] (4.0 cr)
or CSCL 1401W - Reading Literature: Theory and Practice [LITR, WI] (4.0 cr)

CSCL 1201 - Introduction to Cinema and Media Culture [AH] (4.0 cr)
or CSCL 1501W - Reading History: Theory and Practice [HIS, WI] (4.0 cr)
or CSCL 1921W - Introduction to Film Study [AH, WI] (4.0 cr)

Major Courses

Take 5 or more course(s) including 3 or more sub-requirements(s) from the following:

- **Discursive Practices and Genres**
  - Take 0 or more course(s) from the following:
  - CSCL 3172 - Music as Discourse [AH] (3.0 cr)
  - CSCL 3173W - The Rhetoric of Everyday Life [CIV, WI] (3.0 cr)
  - CSCL 3174 - Poetry as Cultural Critique (3.0 cr)
  - CSCL 3175 - Comedy: Text and Theory [AH] (3.0 cr)
  - CSCL 3177 - On Television [CIV] (4.0 cr)
  - CSCL 3179 - Reading Literary Movements [LITR] (3.0 cr)
- **Subjectivity and History**
  - Take 0 or more course(s) from the following:
  - CSCL 3456W - Sexuality and Culture [DSJ, WI] (3.0 cr)
  - CSCL 3458W - The Body and the Politics of Representation [HIS, WI] (3.0 cr)
  - CSCL 3461 - Monsters, Robots, Cyborgs [LITR] (3.0 cr)
  - CSCL 3465 - Aliens [DSJ] (3.0 cr)
  - CSCL 3472 - Gay Men and Homophobia in American Culture [DSJ] (3.0 cr)
  - CSCL 3621W - Colonial and Postcolonial Literatures and Theory: 1700 to the Present [LITR, GP, WI] (3.0 cr)
- **Ideologies and Disciplines**
  - Take 0 or more course(s) from the following:
  - CSCL 3115 - Cinema and Ideology [AH] (4.0 cr)
  - CSCL 3176 - Oppositional Cinemas [GP] (4.0 cr)
  - CSCL 3361 - Visions of Nature: The Natural World and Political Thought [ENV] (3.0 cr)
  - CSCL 3979 - Issues in Cultural Pluralism [DSJ] (3.0 cr)
- **Critical Theories and Methods**
  - Take 0 or more course(s) from the following:
  - CSCL 3321W - Theories of Culture [AH, WI] (3.0 cr)
  - CSCL 3331 - Science and Culture [AH] (3.0 cr)
  - CSCL 3412W - Psychoanalysis and Literature Part I: The Essential Freud [WI] (3.0 cr)
  - CSCL 3413W - Psychoanalysis and Literature Part II: Post Freudian Criticism [WI] (3.0 cr)
  - CSCL 3557W - Close Reading [LITR, WI] (3.0 cr)
  - CSCL 3771 - Basic Concepts of Literary Study (3.0 cr)
- **CSCL 3xxx**
  - Take 0 or more course(s) from the following:
  - CSCL 3xxx

Electives

Take 1 or more course(s) from the following:

- CSCL 1xxx
- CSCL 2xxx
- CSCL 3xxx
- CSCL 4xxx
- CSCL 5xxx

Take 2 or more course(s) from the following:

- CSCL 4xxx
- CSCL 5xxx

Senior Project

The senior project requirement may be satisfied by fulfilling one of the following options:

(1) Completion of a project within a directed study (CSCL 3993, 4993, 5993)
(2) Completion of a project within a 3xxx or 4xxx course (arrangement with instructor)
(3) Completion of coursework, including substantial writing, in any CSCL 5xxx course
(4) Completion of an Honors thesis or project

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Dance B.A.

Theatre Arts & Dance

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 45
- Degree: Bachelor of Arts

The B.A. in dance emphasizes general studies of contemporary dance in a global context. This degree prepares the student for further studies in such areas of dance as performance, choreography, dance theory, teaching, arts management, movement therapy, and kinesiology.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission into the B.A. program is by audition only.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn a B.A. or a B.F.A. in dance, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Core

DNCE 1601 - Dance Improvisation (1.0 cr)
DNCE 1626 - Music for Dance [AH] (3.0 cr)
DNCE 3010 - Modern Dance Technique 5 (2.0 cr)
DNCE 3020 - Modern Dance Technique 6 (2.0 cr)
DNCE 3401W - Dance History 1 [GP, WI] (3.0 cr)
DNCE 3402W - Dance History 2 [WI] (3.0 cr)
DNCE 3601 - Dance Composition 1 (3.0 cr)
DNCE 3602 - Dance Composition 2 (3.0 cr)
DNCE 3901 - Survival Strategies in Dance (3.0 cr)
DNCE 4443 - Theorizing Dancing Bodies (3.0 cr)
DNCE 4601 - Dance Composition 3 (3.0 cr)

Performance

To fulfill the performance requirement, take DNCE 3700 & DNCE 5700, or DNCE 3700 twice, or DNCE 5700 twice.
Take 2 or more credits(s) from the following:

- DNCE 3700 - Performance (1.0 cr)
- DNCE 5700 - Performance (1.0 cr)

Electives

Take at least 12 credits. Electives may be fulfilled by courses in dance or in fields related to dance. For example, courses in music, theatre, art history, kinesiology, cultural studies, speech communications, gender studies, as agreed upon between the student and dance adviser. At least 9 credits must be at 3xxx or above. No more than 3 credits in technique may be counted.

Senior Seminar
DNCE 4901 - Senior Seminar (2.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Dance B.F.A.

Theatre Arts & Dance

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 78
- Degree: Bachelor of Fine Arts

The B.F.A. in dance emphasizes technical, compositional, performance, and theoretical training in modern dance and contemporary dance in a global context. The program seeks to prepare the gifted student for a performance or creative career, or further studies in related fields.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission into the B.F.A. program is by audition only.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn a B.A. or a B.F.A. in dance, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Dance Technique

Complete the Modern and Ballet Techniques, and the Jazz or African Diasporic Technique for a total of 14 credits.

Modern Dance & Ballet Techniques

DNCE 3010 - Modern Dance Technique 5 (2.0 cr)
DNCE 3020 - Modern Dance Technique 6 (2.0 cr)
DNCE 3110 - Ballet Technique 5 (2.0 cr)
DNCE 3120 - Ballet Technique 6 (2.0 cr)
DNCE 5010 - Modern Dance Technique 7 (2.0 cr)
DNCE 5020 - Modern Dance Technique 8 (2.0 cr)

Jazz Technique

DNCE 3210 - Jazz Technique 5 (1.0 cr)
DNCE 3220 - Jazz Technique 6 (1.0 cr)

or **African Diasporic Movement**

DNCE 3351 - African Diasporic Movement 5 (1.0 cr)
DNCE 3352 - African Diasporic Movement 6 (1.0 cr)

Performance

Take any combination of DNCE 3700 and DNCE 5700 for a minimum of 4 credits. DNCE 3700 and 5700 are repeatable up to four times each, and should be spread throughout four years of coursework.

DNCE 3700 - Performance (1.0 cr)
DNCE 5700 - Performance (1.0 cr)

Creativity/Dance Composition

Take a total of 17 credits.
DNCE 1601 - Dance Improvisation (1.0 cr)
DNCE 1626 - Music for Dance [AH] (3.0 cr)
DNCE 3601 - Dance Composition 1 (3.0 cr)
DNCE 3602 - Dance Composition 2 (3.0 cr)
DNCE 4601 - Dance Composition 3 (3.0 cr)
DNCE 4602 - Dance Composition 4 (3.0 cr)
DNCE 5601 - Dance Composition 5 (1.0 cr)

Dance Academics
Take a total of 23 credits.
DNCE 3401W - Dance History 1 [GP, WI] (3.0 cr)
DNCE 3402W - Dance History 2 [WI] (3.0 cr)
DNCE 3433 - Articulate Body (3.0 cr)
DNCE 3621 - Dance Production I (2.0 cr)
DNCE 3622 - Dance Production II (2.0 cr)
DNCE 3901 - Survival Strategies in Dance (3.0 cr)
DNCE 4443 - Theorizing Dancing Bodies (3.0 cr)
DNCE 5858 - Teaching Dance (4.0 cr)

Electives
Take a total of 18 credits. Complete courses in DNCE or related fields (ANTH, ARTH, CSCL, GWSS, GLOS, KIN, MUS, TH) with Dance adviser's consent. All students, except those who have completed the CLA second language requirement, must complete the Dance Ethnology sequence: 2 credits of World Dance Technique and DNCE 3487W. Note: at least 12 credits must be at 3xxx or above. No more than 6 Technique credits may be counted.

Senior Seminar
DNCE 4901 - Senior Seminar (2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Earth Sciences B.A.

Department of Earth Sciences

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 41
- This program requires summer terms.
- Degree: Bachelor of Arts

Earth Sciences is the study of the composition, structure, and history of the Earth, as well as the processes that operate on and within it. Emphasis on the crust, oceans, and atmosphere. The B.A. prepares students for graduate study or professional employment.

Earth scientists are employed in a wide range of fields, including exploration for and development of natural resources, environmental science, urban planning, education, oceanography, and other areas related to natural science. Potential employers include the oil, gas, and minerals industries, environmental consultants, federal and private research institutions, universities, schools, and government agencies. An advanced degree is usually required for a career in research or teaching.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from outside the University

Students interested in Earth Sciences as a major may want to consider taking ESCI 1001 or another ESCI 1xxx course.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn a B.A. or a minor in earth sciences, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Mathematics

Take one of the calculus sequences (two courses), or the honors sequence (two courses). Note: these courses do not count toward the overall length in credits of the major.

MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1372 - CSE Calculus II (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1572H - Honors Calculus II (4.0 cr)

Physics

Note: these courses do not count toward the overall length in credits of the major.

PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)

Chemistry
Note: these courses do not count toward the overall length in credits of the major.
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)

Major Courses
ESCI 2201 - Solid Earth Dynamics (4.0 cr)
ESCI 2202 - Earth History (4.0 cr)
ESCI 2203 - Earth Surface Dynamics (4.0 cr)
ESCI 2301 - Mineralogy (3.0 cr)
ESCI 3202 - Fluid Earth Dynamics (4.0 cr)
ESCI 3303W - Geochemical Principles [WI] (4.0 cr)
ESCI 3891 - Field Methods (1.0 cr)

Field Courses
ESCI 3911 - Introductory Field Geology (4.0 cr)
ESCI 4911 - Advanced Field Geology (4.0 cr)
or ESCI 4971W - Field Hydrogeology [WI] (4.0 cr)

Electives
Take 9 or more credits(s) from the following:
- ESCI 2302 - Petrology (3.0 cr)
- ESCI 4501 - Structural Geology (3.0 cr)
- ESCI 4602 - Sedimentology and Stratigraphy (3.0 cr)
- ESCI 2xxx
- ESCI 3xxx
- ESCI 4xxx
- ESCI 5xxx

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Economics - Quantitative Emphasis B.A.

Economics

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35 to 37
- Degree: Bachelor of Arts

Economics emphasizes critical thinking and the understanding of basic economic principles. The B.A. - Quantitative Emphasis adds basic quantitative training (in calculus, linear algebra, and econometrics) and best suits students considering graduate work in business administration.

Students choose from courses in comparative economic systems; economic theory; econometrics; economic development; game theory; industrial organization; cost-benefit analysis; environmental, financial, international, mathematical, monetary, public, and labor economics.

For more information, visit www.econ.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 4 courses before admission to the program.

ECON 1101, ECON 1102, MATH 1271 & MATH 1272 are basic pre-requisites for the B.A. in Economics - Quantitative Emphasis. These twelve credits do not factor into the overall length in credits of the major.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Coursework

ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ECON 1102 - Principles of Macroeconomics (4.0 cr)
MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

All major coursework must be taken A-F. Up to 3 credits of independent study (ECON 3991) may count toward the major. Students must maintain a 2.00 GPA in all major coursework in order to graduate. This policy is strictly enforced. Supporting work in computer science, mathematics, and statistics is recommended. Only one country/area study course (ECON 3960, 4311, 4313, or 4315) or DUS-approved study-abroad course may count toward the electives requirement. All study-abroad or transfer courses must be approved by the director of undergraduate studies in the Department of Economics. Students must complete at least 12 credits of upper-division coursework (ECON 4xxx-5xxx) in residence at the University of Minnesota - Twin Cities campus. Students must take at least one writing intensive course in the major, or take ECON 4100W concurrently with ECON 4831, or an honors course.

Students may receive no more than one undergraduate degree from the Department of Economics: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Requirements
ECON 3101 - Intermediate Microeconomics (4.0 cr)
ECON 3102 - Intermediate Macroeconomics (4.0 cr)
ECON 4211 - Principles of Econometrics (4.0 cr)
MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)
STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
STAT 3022 - Data Analysis (4.0 cr)

Electives
At least one 3xxx-5xxx course must be writing intensive.

Students may substitute selected 5xxx APEC courses for one of the six required elective courses, with the prior approval of the director of undergraduate studies.

ECON 4431W, 4631, 4721, 4731, and 4751 are also offered as four-credit honors courses open to all students.
Take 4 or more course(s) totaling 12 or more credits(s) from the following:
•ECON 3960 - Topics in Economics (3.0 cr)
•ECON 4109H - Honors Course: Game Theory and Applications (4.0 cr)
•ECON 4113 - Introduction to Mathematical Economics (4.0 cr)
•ECON 4171 - History of Economic Thought (3.0 cr)
•ECON 4311 - Economy of Latin America (3.0 cr)
•ECON 4313 - The Russian Economy (3.0 cr)
•ECON 4315 - The Japanese Economy (3.0 cr)
•ECON 4331W - Economic Development [WI] (3.0 cr)
•ECON 4337 - Comparative Economic Systems (3.0 cr)
•ECON 4421W - Economic Integration of the Americas [WI] (3.0 cr)
•ECON 4431W - International Trade [GP, WI] (3.0 cr)
•ECON 4432W - International Finance [WI] (3.0 cr)
•ECON 4531 - Labor Economics (3.0 cr)
•ECON 4621H - Honors Course: Urban Economics (4.0 cr)
•ECON 4631 - Industrial Organization and Antitrust Policy (3.0 cr)
•ECON 4721 - Money and Banking (3.0 cr)
•ECON 4731 - Macroeconomic Policy (3.0 cr)
•ECON 4751 - Financial Economics (3.0 cr)
•ECON 4821 - Public Economics (3.0 cr)
•ECON 4831 - Cost-Benefit Analysis (3.0 cr)
•ECON 4960 - Topics in Economics (3.0 cr)
•ECON 5890 - Economics of the Health-Care System (3.0 cr)

Senior Project
This requirement may be waived if a senior project has been completed in another CLA department.
ECON 3951 - Major Project Seminar (2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Economics B.A.

Economics

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 34 to 40
- Degree: Bachelor of Arts

Economics emphasizes critical thinking and the understanding of basic economic principles. The B.A. gives students a solid background in economics, is the least quantitative of the three economics majors, and provides excellent preparation for students interested in working immediately after graduation or considering law school.

Students choose from courses in comparative economic systems, economic theory, econometrics, economic development, game theory, industrial organization, cost-benefit analysis, environmental, financial, international, mathematical, monetary, public, and labor economics.

For more information, visit www.econ.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 3 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Coursework

Note: these courses do not factor into the overall length in credits of the major.
MATH 1271 - Calculus I [MATH] (4.0 cr)
ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ECON 1102 - Principles of Macroeconomics (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

All major coursework must be taken A-F. Up to 3 credits of independent study (ECON 3991) may count toward the major. Students must maintain a 2.00 GPA in all major coursework in order to graduate. This policy is strictly enforced. Supporting work in computer science, mathematics, and statistics is recommended. Only one country/area study course (ECON 3960, 4311, 4313, or 4315) or DUS-approved study-abroad course may count toward the electives requirement. All study-abroad or transfer courses must be approved by the director of undergraduate studies in the Department of Economics. Students must complete at least 12 credits of upper-division coursework (ECON 4xxx-5xxx) in residence at the University of Minnesota - Twin Cities campus. Students must take at least one writing intensive course in the major, or take ECON 4100W concurrently with ECON 4831, or an honors course. Students may receive no more than one undergraduate degree from the Department of Economics: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Requirements

ECON 3101 - Intermediate Microeconomics (4.0 cr)

ECON 3102 - Intermediate Macroeconomics (4.0 cr)
STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
STAT 3022 - Data Analysis (4.0 cr)

Electives

At least one 4xxx-5xxx course must be writing intensive.

Students may substitute ACCT 5100 and other selected 5xxx APEC courses for one of the six required elective courses, with the prior approval of the director of undergraduate studies.

ECON 4431W, 4631, 4721, 4731, 4741, and 4751 are also offered as four-credit honors courses open to all students.
Take 6 or more course(s) totaling 18 or more credits(s) from the following:
•ECON 3960 - Topics in Economics (3.0 cr)
•ECON 4109H - Honors Course: Game Theory and Applications (4.0 cr)
•ECON 4113 - Introduction to Mathematical Economics (4.0 cr)
•ECON 4171 - History of Economic Thought (3.0 cr)
•ECON 4211 - Principles of Econometrics (4.0 cr)
•ECON 4311 - Economy of Latin America (3.0 cr)
•ECON 4313 - The Russian Economy (3.0 cr)
•ECON 4315 - The Japanese Economy (3.0 cr)
•ECON 4331W - Economic Development [WI] (3.0 cr)
•ECON 4337 - Comparative Economic Systems (3.0 cr)
•ECON 4421W - Economic Integration of the Americas [WI] (3.0 cr)
•ECON 4431W - International Trade [GP, WI] (3.0 cr)
•ECON 4432W - International Finance [WI] (3.0 cr)
•ECON 4531 - Labor Economics (3.0 cr)
•ECON 4621H - Honors Course: Urban Economics (4.0 cr)
•ECON 4631 - Industrial Organization and Antitrust Policy (3.0 cr)
•ECON 4721 - Money and Banking (3.0 cr)
•ECON 4731 - Macroeconomic Policy (3.0 cr)
•ECON 4751 - Financial Economics (3.0 cr)
•ECON 4821 - Public Economics (3.0 cr)
•ECON 4831 - Cost-Benefit Analysis (3.0 cr)
•ECON 4960 - Topics in Economics (3.0 cr)
•ECON 5890 - Economics of the Health-Care System (3.0 cr)

Senior Project

This requirement may be waived if a senior project has been completed in another CLA department.
ECON 3951 - Major Project Seminar (2.0 cr)
or ECON 3991 - Independent Study (1.0 - 3.0 cr)
or A term paper from an upper-division writing intensive course with a minimum grade of A-.
or Honors project or thesis (up to 6 credits).

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Economics B.S.

Economics

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 48
- Degree: Bachelor of Science

Economics emphasizes critical thinking and the understanding of basic economic principles. The B.S. is for students interested in graduate study in economics or in a career where quantitative economic analysis plays a significant role. The strong quantitative component in this degree emphasizes multivariate calculus, linear algebra, and econometrics.

Students choose from courses in comparative economic systems, economic theory, econometrics, economic development, game theory, industrial organization, cost-benefit analysis, environmental, financial, international, mathematical, monetary, public, and labor economics.

For more information, visit www.econ.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 4 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Coursework

Note: these courses do not factor into the overall length in credits of the major.
ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ECON 1102 - Principles of Macroeconomics (4.0 cr)
MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major coursework must be taken A-F. Up to 3 credits of independent study (ECON 3991) may count toward the major. Students must maintain a 2.00 GPA in all major coursework in order to graduate. This policy is strictly enforced. Supporting work in computer science, mathematics, and statistics is recommended. Only one country/area study course (ECON 3960, 4311, 4313, or 4315) or DUS-approved study-abroad course may count toward the electives requirement. All study-abroad or transfer courses must be approved by the director of undergraduate studies in the Department of Economics. Students must complete at least 12 credits of upper-division coursework (ECON 4xxx-5xxx) in residence at the University of Minnesota - Twin Cities campus. Students must take at least one writing intensive course in the major, or take ECON 4100W concurrently with ECON 4831, or an honors course. Students may receive no more than one undergraduate degree from the Department of Economics: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Requirements

ECON 3101 - Intermediate Microeconomics (4.0 cr)
ECON 3102 - Intermediate Macroeconomics (4.0 cr)
ECON 4261 - Introduction to Econometrics (4.0 cr)
MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)
Take one of the following course pairs:
STAT 4101 - Theory of Statistics I (4.0 cr)
STAT 4102 - Theory of Statistics II (4.0 cr)
or STAT 5101 - Theory of Statistics I (4.0 cr)
STAT 5102 - Theory of Statistics II (4.0 cr)

Electives

Take a total of six courses for twenty credits. At least one 4xxx-5xxx course must be writing intensive. Students may substitute selected 5xxx APEC courses for one of the six required elective courses, with the prior approval of the director of undergraduate studies. ECON 4431W, 4631, 4721, 4731, 4741, and 4751 are also offered as four-credit honors courses open to all students.
Take 4 or more course(s) totaling 12 or more credits(s) from the following:
•ECON 3960 - Topics in Economics (3.0 cr)
•ECON 4171 - History of Economic Thought (3.0 cr)
•ECON 4311 - Economy of Latin America (3.0 cr)
•ECON 4313 - The Russian Economy (3.0 cr)
•ECON 4315 - The Japanese Economy (3.0 cr)
•ECON 4331W - Economic Development [WI] (3.0 cr)
•ECON 4337 - Comparative Economic Systems (3.0 cr)
•ECON 4421W - Economic Integration of the Americas [WI] (3.0 cr)
•ECON 4432W - International Finance [WI] (3.0 cr)
•ECON 4531 - Labor Economics (3.0 cr)
•ECON 4821 - Public Economics (3.0 cr)
•ECON 4831 - Cost-Benefit Analysis (3.0 cr)
•ECON 4960 - Topics in Economics (3.0 cr)
•ECON 5890 - Economics of the Health-Care System (3.0 cr)
•ECON 4741H - Honors: Quantitative Analysis of the Macroeconomy (4.0 cr)
•ECON 4431W - International Trade [GP, WI] (3.0 cr)
or ECON 4431V - Honors Course: International Trade [GP, WI] (4.0 cr)
•ECON 4631 - Industrial Organization and Antitrust Policy (3.0 cr)
or ECON 4631H - Honors Course: Industrial Organization and Antitrust Policy (4.0 cr)
•ECON 4721 - Money and Banking (3.0 cr)
or ECON 4721H - Honors Course: Money and Banking (4.0 cr)
•ECON 4731 - Macroeconomic Policy (3.0 cr)
or ECON 4731H - Honors Course: Macroeconomic Policy (4.0 cr)
•ECON 4751 - Financial Economics (3.0 cr)
or ECON 4751H - Honors Course: Financial Economics (4.0 cr)
•May use one of the courses below with major adviser approval.
•Take 0 - 1 course(s) from the following:
•MATH 4065 - Theory of Interest (4.0 cr)
•MATH 4606 - Advanced Calculus (4.0 cr)
•Take 2 or more course(s) totaling 8 or more credits(s) from the following:
•ECON 4109H - Honors Course: Game Theory and Applications (4.0 cr)
•ECON 4113 - Introduction to Mathematical Economics (4.0 cr)
•ECON 4431V - Honors Course: International Trade [GP, WI] (4.0 cr)
•ECON 4621H - Honors Course: Urban Economics (4.0 cr)
•ECON 4631H - Honors Course: Industrial Organization and Antitrust Policy (4.0 cr)
•ECON 4721H - Honors Course: Money and Banking (4.0 cr)
•ECON 4731H - Honors Course: Macroeconomic Policy (4.0 cr)
•ECON 4741H - Honors: Quantitative Analysis of the Macroeconomy (4.0 cr)
•ECON 4751H - Honors Course: Financial Economics (4.0 cr)
•ECON 4161 - Microeconomic Analysis (2.0 cr)
ECON 4162 - Microeconomic Analysis (4.0 cr)
•ECON 4163 - Microeconomic Analysis (2.0 cr)
ECON 4164 - Microeconomic Analysis (2.0 cr)
•ECON 4165 - Macroeconomic Theory (2.0 cr)
ECON 4166 - Macroeconomic Theory (2.0 cr)
•ECON 4167 - Macroeconomic Theory (2.0 cr)
ECON 4168 - Macroeconomic Theory (2.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

English B.A.

English Language & Literature

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35
- Degree: Bachelor of Arts

Students who major in English study literature and other forms of verbal expression, literary history and criticism, critical theory, linguistics, and creative writing. Courses offered by the department explore a wide range of discourses written in English, including poetry, drama, fiction, film, popular culture, and electronic media. Students examine the cultural, social, political, and economic contexts that condition a variety of texts. Majors write extensively and learn to express themselves effectively, both orally and in writing. They gain practical insight into the words that they speak, read, and write.

The English department supports an engaged, civic-oriented curriculum and teaches the critical skills of reading and writing in the context of community involvement and real public spheres by incorporating community and service-learning components into literature and composition classes.

Students can work as interns at local organizations, neighborhood houses, alternative schools, after-school programs, and in the grassroots/nonprofit sector of the greater Twin Cities area. While underscoring the relevance of literary studies to contemporary life, these hands-on experiences prepare students not only for careers and professions, but also for an ongoing engagement in the civic life of their communities. Students can learn more from the University of Minnesota Literacy Lab Web site and from their major adviser.

Students transferring courses from other colleges and universities must complete five University of Minnesota three- or four-credit English courses in residence. These courses must include ENGL 3960W, ENGW 3960W, or ENGL 3883V (the senior project course), and at least four other upper-division courses (3xxx or higher).

Students wishing to transfer English courses from outside the University of Minnesota and apply them to the English major requirements should discuss this with the undergraduate adviser. Note: All English courses completed at two-year community colleges are accepted as equivalent to University lower-division (1xxx) courses, regardless of content. Advanced Placement (AP) and International Baccalaureate (IB) credits are not included in the major.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Prospective majors are encouraged to complete an introductory course in literature, creative writing, and/or English language, chosen from ENGL 1001-1701 and ENGW 1101-1104, before officially declaring the major. To declare a major, a student schedules an appointment with the Undergraduate Studies Office (227 Lind Hall; 612-625-4592; englmaj@umn.edu), and completes a Major Program form which is filed in CLA, the department, and with the student. Advisers recommend that students declare the major during the second semester of the freshman year.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

The major is fulfilled by a minimum of 35 credits and 10 courses. At least 32 of these 35 credits must be upper-division (3xxx or higher). Students may count one ENGL 1xxx course toward the electives sub-requirement. Independent study is limited to 12 credits of directed study, directed instruction, or independent and distance learning (IDL) courses. Students may earn a B.A. or a minor in English, but not

both.

English majors are encouraged to study in other countries before their senior year, to increase understanding of English language and literatures from diverse cultural perspectives. Advanced planning facilitates academic success and progress. See the Learning Abroad Center Web site at www.UMabroad.umn.edu for more information.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Textual Analysis

The methods course provides skills in close and critical reading, background in history and culture, and multiple approaches to literary works.
ENGL 3001W - Textual Analysis: Methods [WI] (4.0 cr)
or ENGL 3001V - Honors: Textual Analysis, Methods [WI] (4.0 cr)

Shakespeare

A 3xxx Shakespeare course, together with the required historical literature courses, situates literary works in historical, cultural, and theoretical perspectives.
ENGL 3007 - Shakespeare [LITR] (3.0 cr)
or ENGL 3007H - Honors: Shakespeare [LITR] (3.0 cr)
or A department-approved 3xxx Shakespeare in London course.

American/British Surveys and Historically-oriented Literature

The surveys and historically-oriented literature courses, together with a 3xxx Shakespeare course, situate literary works in historical, cultural, and theoretical perspectives. A third survey may be used to satisfy the historically-oriented literature requirement. A course used to satisfy the historically-oriented literature requirement may not also satisfy an elective requirement.

Option I

ENGL 3003W - Historical Survey of British Literatures I [HIS, WI] (4.0 cr)
ENGL 3006W - Survey of American Literatures and Cultures II [LITR, DSJ, WI] (4.0 cr)

or **Option II**

ENGL 3004W - Historical Survey of British Literatures II [HIS, WI] (4.0 cr)
ENGL 3005W - Survey of American Literatures and Cultures I [LITR, DSJ, WI] (4.0 cr)
or ENGL 3005V - Honors: Survey of American Literature I [WI] (4.0 cr)

Historically-oriented Literature

Take 1 or more course(s) from the following:
•AFRO 3591W - Introduction to African American Literature [WI] (4.0 cr)
•AMIN 3201W - American Indian Literature [LITR, DSJ, WI] (3.0 cr)
•CHIC 3507W - Introduction to Chicana/o Literature [LITR, DSJ, WI] (3.0 cr)
•ENGL 3003W - Historical Survey of British Literatures I [HIS, WI] (4.0 cr)
•ENGL 3004W - Historical Survey of British Literatures II [HIS, WI] (4.0 cr)
•ENGL 3006W - Survey of American Literatures and Cultures II [LITR, DSJ, WI] (4.0 cr)
•ENGL 3101 - Survey of Medieval English Literature (3.0 cr)
•ENGL 3102 - Chaucer (3.0 cr)
•ENGL 3115 - Medieval and Renaissance Drama (3.0 cr)
•ENGL 3132 - The King James Bible as Literature (3.0 cr)
•ENGL 3133 - Stuart England: 17th-Century Literature and Culture (3.0 cr)
•ENGL 3133H - Honors: Stuart England: 17th-Century Literature and Culture (3.0 cr)
•ENGL 3134 - Milton and Rebellion (3.0 cr)
•ENGL 3141 - The Restoration and the Eighteenth Century (3.0 cr)
•ENGL 3151 - Romantic Literatures and Cultures (3.0 cr)
•ENGL 3161 - Victorian Literatures and Cultures (3.0 cr)
•ENGL 3161H - Honors: Victorian Literatures and Cultures (3.0 cr)
•ENGL 3175 - 20th-Century British Literatures and Cultures I (3.0 cr)
•ENGL 3176 - 20th-Century British Literatures and Cultures II (3.0 cr)
•ENGL 3211 - American Poetry to 1900 (3.0 cr)
•ENGL 3212 - American Poetry from 1900 (3.0 cr)
•ENGL 3221 - American Novel to 1900 (3.0 cr)
•ENGL 3222 - American Novel From 1900 (3.0 cr)
•ENGL 3231 - American Drama (3.0 cr)
•ENGL 3231H - Honors: American Drama (3.0 cr)
•ENGL 3597W - Introduction to African American Literature and Culture I [WI] (4.0 cr)
•ENGL 3598W - Introduction to African American Literature and Culture II [LITR, WI] (4.0 cr)
•ENGL 4152 - Nineteenth Century British Novel (3.0 cr)
•ENGL 4153 - Nineteenth-Century British Poetry (3.0 cr)

•ENGL 4232 - American Drama by Writers of Color (3.0 cr)
•ENGL 4233 - Modern and Contemporary Drama (3.0 cr)
•ENGL 4311 - Asian American Literature and Drama [LITR, DSJ] (3.0 cr)
•ENGL 4593 - The African-American Novel (3.0 cr)
•ENGL 3005W - Survey of American Literatures and Cultures I [LITR, DSJ, WI] (4.0 cr)
or ENGL 3005V - Honors: Survey of American Literature I [WI] (4.0 cr)

English Language or Literary Theory

Take one course for a minimum of 3 credits. This requirement allows students to deepen their understanding of the English language or to concentrate on theoretical questions that shape readers' understanding of texts.
ENGL 3002 - Modern Literary Criticism and Theory (3.0 cr)
or ENGL 3601 - Analysis of the English Language (4.0 cr)
or ENGL 3741 - Literacy and American Cultural Diversity [LITR, CIV] (4.0 cr)
or ENGL 4003 - History of Literary Theory (3.0 cr)
or ENGL 4602W - Gender and the English Language [WI] (4.0 cr)
or ENGL 4603W - World Englishes [WI] (4.0 cr)
or ENGL 4605 - Social Variation in American English (4.0 cr)
or ENGL 4612 - Old English I (3.0 cr)
or ENGL 4613 - Old English II (3.0 cr)
or ENGL 4722 - Alphabet to Internet: History of Writing Technologies (4.0 cr)
or Take both of the following internship courses.
ENGL 3505 - Community Learning Internships I (3.0 cr)
ENGL 3506 - Learning Internships II (4.0 cr)

Electives

Electives are devoted to in-depth study of particular authors, topics, periods, or genres. Any ENGL/W 3xxx-5xxx not used to fulfill other major requirements may be used as an elective. A course used as an elective may not be used to satisfy the historically-oriented literature requirement. Note: some students may have to take more than three electives to satisfy the 35-credit requirement for graduation.
Take 3 or more course(s) totaling 9 or more credits(s) from the following:

•**Lower-division Elective**
•Students may, but are not required to, count one ENGL/W 1xxx toward the major.
•Take 0 - 1 course(s) from the following:
•ENGL 1001V - Introduction to Literature: Poetry, Drama, Narrative [LITR, WI] (4.0 cr)
•ENGL 1001W - Introduction to Literature: Poetry, Drama, Narrative [LITR, WI] (4.0 cr)
•ENGL 1021V - Introduction to the Essay [WI] (4.0 cr)
•ENGL 1181V - Honors: Introduction to Shakespeare [WI] (4.0 cr)
•ENGL 1181W - Introduction to Shakespeare [LITR, WI] (4.0 cr)
•ENGL 1201V - Honors: Contemporary American Literature [WI] (4.0 cr)
•ENGL 1201W - Contemporary American Literature [LITR, WI] (4.0 cr)
•ENGL 1301V - Honors: Introduction to Multicultural Literatures of the United States [WI] (4.0 cr)
•ENGL 1301W - Introduction to Multicultural Literatures of the United States [LITR, DSJ, WI] (4.0 cr)
•ENGL 1401V - Honors: Introduction to "Third World" Literatures in English [LITR, GP, WI] (4.0 cr)
•ENGL 1401W - Introduction to "Third World" Literatures in English [LITR, GP, WI] (4.0 cr)
•ENGL 1501W - Literature of Public Life [LITR, CIV, WI] (4.0 cr)
•ENGL 1601W - English Language and Society [WI] (4.0 cr)
•ENGL 1701 - Modern Fiction [LITR] (3.0 cr)
•ENGL 1701H - Honors: Modern Fiction [LITR] (3.0 cr)
•ENGL 1905 - Topics: Freshman Seminar (3.0 cr)
•ENGL 1910W - Topics: Freshman Seminar [WI] (3.0 cr)
•ENGW 1101W - Introduction to Creative Writing [LITR, WI] (4.0 cr)
•ENGW 1102 - Fiction Writing (Intro) (3.0 cr)
•ENGW 1103 - Poetry Writing (Intro) (3.0 cr)
•ENGW 1104 - Journal, Essay, Memoir Writing (Introduction) (3.0 cr)

•**Upper-division Electives**
•Take 2 or more course(s) totaling 6 or more credits(s) from the following:
•AFRO 3591W - Introduction to African American Literature [WI] (4.0 cr)
•AMIN 3201W - American Indian Literature [LITR, DSJ, WI] (3.0 cr)
•CHIC 3507W - Introduction to Chicana/o Literature [LITR, DSJ, WI] (3.0 cr)
•ENGL 3010 - Studies In Poetry (3.0 cr)
•ENGL 3010H - Honors: Studies in Poetry (3.0 cr)
•ENGL 3020 - Studies in Narrative (3.0 cr)
•ENGL 3020H - Honors: Studies in Narrative (3.0 cr)
•ENGL 3027W - The Essay [WI] (4.0 cr)
•ENGL 3030 - Studies in Drama (3.0 cr)

- ENGL 3030H - Honors: Studies in Drama (3.0 cr)
- ENGL 3040 - Studies in Film (3.0 cr)
- ENGL 3040H - Honors: Studies in Film (3.0 cr)
- ENGL 3060 - Studies in Literature and the Other Arts (3.0 cr)
- ENGL 3070 - Studies in Literary and Cultural Modes (3.0 cr)
- ENGL 3090 - General Topics (1.0 - 4.0 cr)
- ENGL 3090H - Honors: General Topics (3.0 cr)
- ENGL 3101 - Survey of Medieval English Literature (3.0 cr)
- ENGL 3102 - Chaucer (3.0 cr)
- ENGL 3110 - Medieval Literatures and Cultures: Intro to Medieval Studies (3.0 cr)
- ENGL 3115 - Medieval and Renaissance Drama (3.0 cr)
- ENGL 3122 - Shakespeare II: The Major Themes (3.0 cr)
- ENGL 3132 - The King James Bible as Literature (3.0 cr)
- ENGL 3133 - Stuart England: 17th-Century Literature and Culture (3.0 cr)
- ENGL 3133H - Honors: Stuart England: 17th-Century Literature and Culture (3.0 cr)
- ENGL 3134 - Milton and Rebellion (3.0 cr)
- ENGL 3141 - The Restoration and the Eighteenth Century (3.0 cr)
- ENGL 3151 - Romantic Literatures and Cultures (3.0 cr)
- ENGL 3161 - Victorian Literatures and Cultures (3.0 cr)
- ENGL 3161H - Honors: Victorian Literatures and Cultures (3.0 cr)
- ENGL 3171 - Modern British Literatures and Cultures (3.0 cr)
- ENGL 3175 - 20th-Century British Literatures and Cultures I (3.0 cr)
- ENGL 3176 - 20th-Century British Literatures and Cultures II (3.0 cr)
- ENGL 3180 - Contemporary Literatures and Cultures (3.0 cr)
- ENGL 3180H - Honors: Contemporary Literatures and Cultures (3.0 cr)
- ENGL 3211 - American Poetry to 1900 (3.0 cr)
- ENGL 3212 - American Poetry from 1900 (3.0 cr)
- ENGL 3221 - American Novel to 1900 (3.0 cr)
- ENGL 3222 - American Novel From 1900 (3.0 cr)
- ENGL 3231 - American Drama (3.0 cr)
- ENGL 3231H - Honors: American Drama (3.0 cr)
- ENGL 3300 - Multicultural American Literatures and Cultures (3.0 cr)
- ENGL 3300H - Honors: Multicultural American Literatures and Cultures (3.0 cr)
- ENGL 3330 - Gay, Lesbian, Bisexual, and Transgendered Literature (3.0 cr)
- ENGL 3350 - Women Writers (3.0 cr)
- ENGL 3350H - Honors: Women Writers (3.0 cr)
- ENGL 3351W - Voices from the Gaps: Writing and Art by Women of Color [AH, GP, WI] (4.0 cr)
- ENGL 3400 - Post-Colonial Literatures (3.0 cr)
- ENGL 3501 - Public Discourse: Coming to Terms With the Environment [LITR, ENV] (3.0 cr)
- ENGL 3592W - Introduction to Black Women Writers in the United States [WI] (3.0 cr)
- ENGL 3597W - Introduction to African American Literature and Culture I [WI] (4.0 cr)
- ENGL 3598 - Introduction to African American Literature and Culture II (4.0 cr)
- ENGL 3598W - Introduction to African American Literature and Culture II [LITR, WI] (4.0 cr)
- ENGL 3711 - Literary Magazine Production Lab I (4.0 cr)
- ENGL 3713 - Editing for Publication (4.0 cr)
- ENGL 3870 - Figures in English and North American Literature (3.0 cr)
- ENGL 3881 - London Seminar (3.0 cr)
- ENGL 3993 - Directed Study (1.0 - 4.0 cr)
- ENGL 4041 - Old Age in Film and Literature (3.0 cr)
- ENGL 4090 - General Topics (1.0 - 4.0 cr)
- ENGL 4152 - Nineteenth Century British Novel (3.0 cr)
- ENGL 4153 - Nineteenth-Century British Poetry (3.0 cr)
- ENGL 4232 - American Drama by Writers of Color (3.0 cr)
- ENGL 4233 - Modern and Contemporary Drama (3.0 cr)
- ENGL 4311 - Asian American Literature and Drama [LITR, DSJ] (3.0 cr)
- ENGL 4593 - The African-American Novel (3.0 cr)
- ENGL 5711 - Introduction to Editing (4.0 cr)
- ENGL 5712 - Advanced Editing (4.0 cr)
- ENGW 3102 - Fiction Writing (Intermediate) (3.0 cr)
- ENGW 3104 - Poetry Writing (Intermediate) (3.0 cr)
- ENGW 3105 - Advanced Poetry Writing (4.0 cr)
- ENGW 3106 - Journal, Essay, Memoir Writing (Intermediate) (3.0 cr)
- ENGW 3107 - Advanced Literary Nonfiction (4.0 cr)
- ENGW 3110 - Topics in Creative Writing (3.0 cr)
- ENGW 5205 - Screenwriting (4.0 cr)

•ENGW 5207 - Screen writing II (4.0 cr)
•ENGW 5606 - Literary Aspects of Journalism (3.0 cr)

Senior Project

The program of study culminates in a writing project (4 credits), completed either in a rigorous and intensive seminar in which students produce an extended, scholarly essay (ENGL 3960W), or in an advanced creative writing workshop (ENGW 3960W) in which students produce a substantial manuscript of poetry, literary fiction, or literary nonfiction, or in a 2-semester, 4-credit honors thesis (ENGL 3883V).
ENGL 3883V - Honors Thesis [WI] (1.0 - 4.0 cr)
or ENGL 3960W - Senior Seminar [WI] (4.0 cr)
or ENGW 3960W - Writing Workshop for Majors [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

A 3xxx English honors course is required, in addition to the honors senior paper course. The senior paper can be completed in ENGL 3960W or ENGW 3960W for cum laude or magna cum laude degree candidates, or in ENGL 3883V for summa cum laude degree candidates.

Twin Cities Campus

French and Italian Studies B.A.

French & Italian

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 33 to 34
- Degree: Bachelor of Arts

The French and Italian studies major allows students interested in both cultures and languages to pursue a combined major. Students study specific works in each nation's literature while also exploring the interrelations and cross-cultural exchanges that have contributed to Italian and French literature and culture. This comparative perspective introduces students to a broad range of issues and cultural practices.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must formally declare a major within the department before completing the majority of the major elective requirements.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of French and Italian.

The four required semesters of a second language do not factor into the overall length of credits in the major.

Majors complete a minimum of 10 upper-division FREN, FRIT and ITAL courses for 32 credits, plus a senior project. At least 4 of the 10 upper-division FREN, FRIT and ITAL courses (not counting the senior project) must be taken in the Department of French and Italian at the University of Minnesota - Twin Cities campus.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Take all of the following.
FREN 3015 - Advanced French Grammar and Communication (3.0 cr)
FREN 3016 - Advanced French Composition and Communication (3.0 cr)
FREN 3101W - Methods in French and Francophone Studies [LITR, WI] (4.0 cr)
ITAL 3015 - Reading, Conversation, and Composition (4.0 cr)

Upper-Division French Courses

Take at least 1 additional upper-division French course at the 3xxx-5xxx level for at least 3 credits. FREN 30xx and 37xx courses do NOT fulfill the upper-division French courses sub-requirement.
FREN 3xxx
or FREN 4xxx
or FREN 5xxx

Upper-division Italian Courses

Take 9 or more credits(s) from the following:

•ITAL 3xxx
•ITAL 4xxx
•ITAL 5xxx

Upper-division French & Italian Courses
FRIT 5999 does NOT fulfill the upper-division French & Italian courses sub-requirement.
Take 6 or more credits(s) from the following:
•FRIT 3xxx
•FRIT 5xxx

Senior Project
The senior project is completed in FREN 4109W or ITAL 3459W in the last or next-to-last semester before graduation. Honors students should consult the Honors UHP Program Sub-plan for their senior project requirements. Research topics must be approved by course instructor. Papers are written in consultation with course instructor or other appropriate faculty member. Double majors can complete the senior project in their other CLA major, but are still responsible for taking 32 major credits.
FREN 4109W - Senior Project in French and Francophone Studies [WI] (1.0 cr)
or ITAL 3459W - Senior Project [WI] (1.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Senior Project
Honors students are strongly encouraged to enroll in FREN 4110V over two semesters.
FREN 4110V - Honors Thesis [WI] (1.0 - 2.0 cr)

Twin Cities Campus

French Studies B.A.

French & Italian

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 33 to 38
- Degree: Bachelor of Arts

The French studies major includes courses in three areas of concentration: linguistics, literature, and culture. Courses in language and linguistics include history of the French language, structure of the language, sociolinguistics, phonetics, conversation, and business French. Courses in literature and culture focus on topics and problems in three broad historical periods: the Middle Ages and Renaissance, early modern France, and modern and contemporary France. A number of courses focus on Francophone literature from Africa, the Caribbean, and Quebec. Courses in French cinema are also offered.

Many students combine a French studies major with another major. The department offers selected courses in English for students who have not mastered French but want to study France and the French-speaking world.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must formally declare a major within the department before completing the majority of the major elective requirements.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of French.

The four required semesters of a second language do not factor into the overall length of credits in the major.

Majors must complete a minimum of 11 upper-division FREN courses for 33 credits, plus a senior project. At least 4 of the 11 upper-division FREN courses (not counting the senior project) must be taken in the Department of French at the University of Minnesota - Twin Cities campus.

Students may earn a B.A. or a minor in French, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Take all of the following courses.

FREN 3015 - Advanced French Grammar and Communication (3.0 cr)
FREN 3016 - Advanced French Composition and Communication (3.0 cr)
FREN 3101W - Methods in French and Francophone Studies [LITR, WI] (4.0 cr)

Upper-Division French Courses

All courses are worth 3 credits, except FREN 3014 (2 cr). FREN 37xx courses do NOT fulfill the upper-division French courses sub-requirement. FREN 3010 is repeatable up to three times for a total of 9 credits. Note: most FREN linguistics courses require LING 3001 or FREN 3500 as a pre-requisite.

Take 8 or more course(s) totaling 23 or more credits(s) from the following:
•FREN 3xxx
•FREN 4xxx
•FREN 5xxx

Senior Project
The senior project is completed in FREN 4109W in the last or next-to-last semester before graduation. Honors students should consult the Honors UHP Program Sub-plan for their senior project requirements. Research topics must be approved by course instructor. Papers are written in consultation with course instructor or other appropriate faculty. Double majors can complete the senior project in their other CLA major, but are still responsible for taking a minimum of 33 FREN credits.
FREN 4109W - Senior Project in French and Francophone Studies [WI] (1.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Senior Project
Honors students are strongly encouraged to enroll in FREN 4110V over two semesters.
FREN 4110V - Honors Thesis [WI] (1.0 - 2.0 cr)

Twin Cities Campus

Gender, Women and Sexuality Studies B.A.

Gender, Women and Sexuality

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 33
- Degree: Bachelor of Arts

Gender, women, and sexuality studies offers an interdisciplinary curriculum that looks at issues of gender and sexuality in the United States and around the world, taking into account the intersections and interrelations of generation, economic status, race, geographic location, and other social and historical variables. Gender, women, and sexuality studies also seeks to transform traditional fields of study by incorporating new data, methods, theories, and frameworks developed by feminist scholars.

In addition to the faculty in gender, women, and sexuality studies, several departments and centers lend their interdisciplinary teaching and advisory expertise. Among these are the Departments of African American and African Studies; American Studies; American Indian Studies; Anthropology; Chicano Studies; Communication Studies; Comparative Studies in Discourse and Society; English; French and Italian; German, Scandinavian, and Dutch; History; Philosophy; Sociology; and Spanish and Portuguese. Affiliated programs include the School of Nursing; the Hubert H. Humphrey Institute of Public Affairs? Center on Women and Public Policy; the Institute for Global Studies; the Interdisciplinary Program on Global Change, Sustainability, and Justice; Minnesota Institute for Sustainable Agriculture; and the Tucker Center for Research on Girls and Women in Sport.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Preparatory Courses

Take 1 or more course(s) from the following:

- GWSS 1002 - Politics of Sex [SOCS, DSJ] (3.0 cr)
- GWSS 1004 - Screening Sex: Visual and Popular Culture [AH] (3.0 cr)
- GWSS 1005 - Engaging Justice [CIV] (3.0 cr)
- GWSS 1006 - Skin, Sex, and Genes [SOCS, TS] (3.0 cr)

Major Course

GWSS 3102W - Feminist Thought and Theory. [AH, CIV, WI] (3.0 cr)

Electives

Students must take 3 of the 8 elective courses at the 4xxx or 5xxx level.

Take 8 or more course(s) totaling 24 or more credits(s) from the following:

- GWSS 3xxx
- GWSS 4xxx
- GWSS 5xxx

Senior Project

GWSS 4108W - Senior Seminar: Writing [WI] (3.0 cr)

or Directed Studies

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. For any course required in a degree program, UHP students must register for the honors version if one is offered. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Twin Cities Campus

Geography B.A.

Geography

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35
- Degree: Bachelor of Arts

The geography major offers integrated study of a globalized world, as made by human and non-human forces alike. The major synthesizes approaches in the humanities and the social, biophysical, and information sciences to study social, political, economic, and ecological processes and especially the role of space, place, and geographic networks in shaping them. Geography attempts to interpret how these phenomena are perceived and what meanings they hold. Geographers offer insight into pressing challenges of the day, from climate change and social-environmental justice, to the uneven effects of globalization and urban transformation, to the skillful and responsible use of geographic information.

Depending on their specific interests, geographers employ one or more of a variety of research techniques, including field observation, legal and archival analysis, participant observation, interviewing, textual analysis, ethnography, mapping, and spatial statistics and modeling.

Many geographers are interested in the intersections of science, technology, and information, such as the impact of geographic information science (GISci) on decision-making.

Geography majors have an opportunity to specialize in one of several study tracks, or sub-plans, offered by the department. They may also craft a course of individualized study. The sub-plans include environmental geography, geographic information science, globalization and uneven development, the urban world, and environment and society. Descriptions can be found under sub-plan Requirements.

There are a variety of opportunities for graduates having degrees in geography. Governmental agencies of the federal, state, regional, and local levels of government seek geographers for city and regional planning, park service, law enforcement, and transportation department positions. Private industry consulting, environmental and marketing firms, and local, national and transnational organizations, NGO's, and the nonprofit sector also seek geographic skills. Many geography undergraduate majors obtain careers in education and many go on to graduate school.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Special policies on counting courses: in some cases, geography courses fulfill requirements of other academic programs. In such cases, majors may apply up to three geography courses toward meeting requirements of their declared double or triple major. Up to one GEOG 1xxx may count toward the major. Typically, students complete this course as part of the 15 credits of specialty coursework in their chosen sub-plan. Qualifying students may substitute a 5xxx-level course for its 3xxx-level cross-list. See major adviser for final approval. Students may earn up to one undergraduate degree in the geography program: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

Though not required for the major, preparatory courses in geography introduce students to the exciting themes and topics in the discipline. Students may count up to one GEOG 1xxx toward the major. See note on 1xxx-level courses above.

Take 0 - 1 course(s) from the following:

•GEOG 1301V - Honors: Our Globalizing World [SOCS, GP, WI] (4.0 cr)
•GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
•GEOG 1372 - Geography of Global Cities [SOCS, GP] (3.0 cr)
•GEOG 1403 - Biogeography of the Global Garden [BIOL, ENV] (4.0 cr)
•GEOG 1403H - Honors: Biogeography of the Global Garden (4.0 cr)
•GEOG 1425 - Introduction to Meteorology [PHYS, ENV] (4.0 cr)
•GEOG 1502 - Mapping Our World [TS, SOCS] (3.0 cr)
•GEOG 1904 - Freshman Seminar (3.0 cr)
•GEOG 1905 - Freshman Seminar (3.0 cr)
•GEOG 1973 - Geography of the Twin Cities [SOCS] (3.0 cr)

Breadth Requirement

Take one course in four of the following five themes.

Take 4 or more course(s) totaling 13 or more credits(s) from the following:

•**Urban World**
•GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
or GEOG 3373 - Changing Form of the City [HIS, GP] (3.0 cr)
•**Environmental Geography**
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•**Geographic Information Science**
•GEOG 3511 - Principles of Cartography (4.0 cr)
or GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
or GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
•**Globalization and Uneven Development**
•GEOG 3331 - Geography of the World Economy [SOCS, GP] (3.0 cr)
or GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
•**Environment and Society**
•GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
or GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)

Ways of Knowing Requirement

GEOG 4001 - Modes of Geographic Inquiry (4.0 cr)
or GEOG 4002W - Environmental Thought and Practice [WI] (3.0 cr)

Senior Project

Take a minimum of two credits by choosing one of the following five options. [Note: enrollment in GEOG 4700 requires prior or concurrent registration in GEOG 3411W or 4121W. Completion of the senior project requirement will not be granted until (GEOG 3411W or 4121W) and 4700 are complete.]

GEOG 3985W - Senior Project Seminar [WI] (4.0 cr)
or GEOG 3985V - Honors Senior Project Seminar [WI] (4.0 cr)
or GEOG 3994 - Directed Research (1.0 - 8.0 cr)
or GEOG 4700 - Community Service Learning (1.0 - 3.0 cr)
or 2 additional credits added to a GEOG major concentration-track course

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an

honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Globalization and Uneven Development

This track focuses on a key concern of our time: increasing global connectivity coupled with persistent inequality. Through coursework studying the world economy and population, land use, land cover, and climate change, uneven development in the global north and south, and interacting systems of belief, students gain knowledge of an interconnected but continually differentiated world. Does globalization promise a future of fair and open access to resources and markets? Will it ensure the global spread of democracy? Are "global" problems, from climate change to water quality to energy resources, truly global? These are some of the important questions students take up in this study track.

Breadth requirement "gateway" course for this track: GEOG 3331 or GEOG 3381W (must petition adviser). Students may use courses not taken for the breadth requirement to fulfill sub-plan requirements. Students may not use a single course to fulfill both a breadth and a sub-plan requirement.

Required Courses

A maximum of one 1xxx course may count, see the major adviser for final approval. Note: some students may need to take more than 15 credits of coursework in order to satisfy the 35-credit graduation requirement.
Take 5 or more course(s) totaling 15 or more credits(s) from the following:
•GEOG 3141 - Africa (3.0 cr)
•GEOG 3161 - Europe: A Geographic Perspective (3.0 cr)
•GEOG 3212 - Producing India (3.0 cr)
•GEOG 3331 - Geography of the World Economy [SOCS, GP] (3.0 cr)
•GEOG 3378 - The Third World: Development, poverty, possibility (3.0 cr)
•GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
•GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
•GEOG 4121W - Latin America [WI] (4.0 cr)
•GEOG 5385 - Globalization and Development: Political Economy (4.0 cr)

Environmental Geography

Environmental geography is the study of patterns and processes in the natural world. Environmental patterns include the distribution of forests and prairies, the courses of rivers and extent of their floods, and the tracks of hurricanes and tornadoes. The processes that shape these patterns range from forest fires to erosion to cloud formation. Such phenomena must be understood to help us manage natural resources, mediate risks and hazards, and conserve valued places and species. The challenges faced by our society--mitigating the effects of climate change, maintaining water supplies, and securing energy, can only be addressed with a deep understanding of the geography of the environment.

Breadth requirement "gateway" course for this track: GEOG 3401 or GEOG 3431 (must petition adviser). Students may use courses not taken for the breadth requirement to fulfill sub-plan requirements. Students may not use a single course to fulfill both a breadth and a sub-plan requirement.

Required Courses

A maximum of one 1xxx course may count, see the major adviser for final approval. Note: some students may need to take more than 15 credits of coursework in order to satisfy the 35-credit graduation requirement.
Take 5 or more course(s) from the following:
•GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•GEOG 3431 - Plant and Animal Geography [ENVT] (3.0 cr)
•GEOG 5393 - Rural Landscapes and Environments (4.0 cr)
•GEOG 5421 - Introduction to Atmospheric Science (3.0 cr)
•GEOG 5423 - Climate Models and Modeling (3.0 cr)
•GEOG 5426 - Climatic Variations (3.0 cr)
•GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
•URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
•GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
or GEOG 5531 - Numerical Spatial Analysis (4.0 cr)

Geographic Information Science

This track concerns the theory and skills involved in collecting, storing, manipulating, analyzing, and visualizing spatial data. It includes geographic information science, geographic information systems, cartography, remote sensing, spatial analysis, and numerical modeling. It also explores the relationship between society and GIS/GISci: Where does geographic information come from? How can society make use of such information? This track exposes students to GIS/GISci and cartography applications, including land use and land cover change, environmental justice, transportation improvements, urban, regional and environmental planning, resource

conservation, and society-technology relations.

Breadth requirement "gateway" course for this track: GEOG 3511 or GEOG 3531 or GEOG 3561. Students may use courses not taken for the breadth requirement to fulfill sub-plan requirements. Students may not use a single course to fulfill both a breadth and a sub-plan requirement.

Required Courses

A maximum of one 1xxx course may count, see the major adviser for final approval. Note: some students may need to take more than 15 credits of coursework in order to satisfy the 35-credit graduation requirement.
Take 5 or more course(s) from the following:
•GEOG 3511 - Principles of Cartography (4.0 cr)
•GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
•GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
•GEOG 5512 - Cartography: Topics (3.0 cr)
•GEOG 5530 - Cartography Internship (2.0 - 7.0 cr)
•GEOG 5562 - Geographic Information Science and Analytical Cartography (3.0 cr)
•GEOG 5563 - Advanced Geographic Information Science (3.0 cr)
•GEOG 5564 - Urban Geographic Information Science and Analysis (3.0 cr)
•GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
•GIS 5555 - Basic Spatial Analysis (3.0 cr)
•GIS 5571 - ArcGIS I (3.0 cr)
•GIS 5572 - ArcGIS II (3.0 cr)
•GIS 5573 - Desktop Mapping (1.5 cr)
•GIS 5574 - GIS and the Internet (3.0 cr)
•GIS 5575 - Surveying and the Global Positioning System (GPS) (2.0 cr)
•GIS 5578 - GIS Programming (3.0 cr)

The Urban World

The 21st century is urban, with more than half the world's population living in cities. Throughout history, cities have been places of intense human activity, interaction, innovation, and struggle. This track offers study in the history of cities and urban planning and the many processes by which cities and suburbs are made: governmental and community planning, migration, social movements, capital investment and disinvestment, artistic and cultural production, local and global interconnectedness, planned and unplanned settlement, transportation infrastructures, ecological change and its social impacts. More people live in cities than at any other time in history: find out why this matters.

Breadth requirement "gateway" course for this track: GEOG 3371W or GEOG 3373 (must petition adviser). Students may use courses not taken for the breadth requirement to fulfill sub-plan requirements. Students may not use a single course to fulfill both a breadth and a sub-plan requirement.

Required Courses

A maximum of one 1xxx course may count, see the major adviser for final approval. Note: some students may need to take more than 15 credits of coursework in order to satisfy the 35-credit graduation requirement.
Take 5 or more course(s) from the following:
•GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)
•GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
•GEOG 3373 - Changing Form of the City [HIS, GP] (3.0 cr)
•GEOG 3374W - The City in Film [AH, WI] (4.0 cr)
•GEOG 3377 - Music in the City: Sounds and Bodies in Different Places [DSJ] (3.0 cr)
•GEOG 3973 - Geography of the Twin Cities [SOCS] (3.0 cr)
•GEOG 5361 - Geography and Real Estate (4.0 cr)
•GEOG 5564 - Urban Geographic Information Science and Analysis (3.0 cr)
•URBS 3301W - American Cities As Settings for Cultural Diversity [WI] (3.0 cr)
•URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
•URBS 3771 - Fundamentals of Transit (3.0 cr)
•URBS 3871 - A Suburban World (3.0 cr)

Environment and Society

This sub-plan is optional and does not fulfill the sub-plan requirement for this program.

This track is a multifaceted curriculum focusing simultaneously on the social transformation of the natural world and the inescapably more-than-human world in which human beings live. Through coursework in this track students learn about important issues standing at the intersection of ecology and politics and that demand a geographical understanding. These include environmental sustainability and prospects for a "greener" society, uneven resource consumption between rich and poor, environmental hazards, risks, and regulation, global land-use and climate change, the emergence of distinctive cultural landscapes, deep-seated cultural discourses regarding "nature" and "society" and more.

Breadth requirement "gateway" course for this track: GEOG 3379 or GEOG 3361W. Students may use courses not taken for the breadth requirement to fulfill sub-plan requirements. Students may not use a single course to fulfill both a breadth and a sub-plan requirement.

Required Courses

A maximum of one 1xxx course may count, see the major adviser for final approval. Note: some students may need to take more than 15 credits of coursework in order to satisfy the 35-credit graduation requirement.

Take 5 or more course(s) from the following:

•GEOG 3101 - Geography of the United States and Canada [SOCS] (4.0 cr)
•GEOG 3111 - Geography of Minnesota (3.0 cr)
•GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)
•GEOG 3376 - Political Ecology of North America [ENV] (3.0 cr)
•GEOG 3378 - The Third World: Development, poverty, possibility (3.0 cr)
•GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
•GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•GEOG 3411W - Geography of Health and Health Care [WI] (4.0 cr)
•GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
•GEOG 4121W - Latin America [WI] (4.0 cr)
•GEOG 5361 - Geography and Real Estate (4.0 cr)
•GEOG 5393 - Rural Landscapes and Environments (4.0 cr)
•GEOG 5423 - Climate Models and Modeling (3.0 cr)
•GEOG 5426 - Climatic Variations (3.0 cr)
•GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
•URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
or GEOG 5401 - Geography of Environmental Systems and Global Change (4.0 cr)
•GEOG 3431 - Plant and Animal Geography [ENVT] (3.0 cr)
or GEOG 5431 - Plant and Animal Geography (3.0 cr)

Twin Cities Campus

Geography B.S.

Geography

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 39 to 47
- Degree: Bachelor of Science

Geography is an academic and practical field that studies the manner in which man-made places and natural systems interact and change. Geographers study these interactions at all scales: neighborhoods and cities, regions and nations, single or multiple biological systems, and even the world as a whole. Geography attempts to explain not only these interactions and changes, but in many instances how they are perceived and what meanings they hold.

Depending on their specific interests, geographers will employ one or more of a variety of methods and techniques: fieldwork, mapping, conventional narrative, ethnography, spatial statistics and modeling, and textual analysis. Many geographers are also interested in the intersections of science, technology, and information, such as the impact of geographic information systems (GIS) on decision making. Geography's integrative perspective on regional and global change provides students with unparalleled understanding of today's complex world.

The B.S. offers a solid foundation in the science of geography in either the environmental systems or geographic information science track.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn up to one undergraduate degree in the geography program: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Take a total of 15-16 credits.
GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
or GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (4.0 cr)
GEOG 4001 - Modes of Geographic Inquiry (4.0 cr)
or GEOG 4002W - Environmental Thought and Practice [WI] (3.0 cr)

Quantitative Courses

Take one of the following pairs of courses for 7-8 total credits. Note: CSCI 1107 must be taken for a minimum of 3 credits in order to satisfy this requirement.
CSCI 1107 - FORTRAN Programming (1.0 - 3.0 cr)
CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)

MATH 1272 - Calculus II (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1372 - CSE Calculus II (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
STAT 3022 - Data Analysis (4.0 cr)

Senior Project
Take a minimum of two credits by choosing one of the following five options. [Note: enrollment in GEOG 4700 requires prior or concurrent registration in GEOG 3411W or 4121W. Completion of the senior project requirement will not be granted until (GEOG 3411W or 4121W) and 4700 are complete.]
GEOG 3985W - Senior Project Seminar [WI] (4.0 cr)
or GEOG 3985V - Honors Senior Project Seminar [WI] (4.0 cr)
or GEOG 3994 - Directed Research (1.0 - 8.0 cr)
or GEOG 4700 - Community Service Learning (1.0 - 3.0 cr)
or 2 additional credits added to a geography major concentration track course.

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Environmental Systems

The environmental systems track examines the natural environments and resources that sustain human life and activity. Students explore the local and global patterns of climate, soils, vegetation, and surface land form; changes over time, both naturally occurring and caused by humans, in the natural environment; and ways of analyzing and predicting both human-caused and naturally occurring environmental change.

Students must complete four to five courses in this track, for a minimum of 15 credits.

Required Courses
Students may not take more than 2 GEOG 1xxx courses for the major.
Take 4 - 5 course(s) totaling 15 or more credits(s) from the following:
•GEOG 1403 - Biogeography of the Global Garden [BIOL, ENV] (4.0 cr)
•GEOG 1425 - Introduction to Meteorology [PHYS, ENV] (4.0 cr)
•GEOG 1502 - Mapping Our World [TS, SOCS] (3.0 cr)
•GEOG 3361W - Geography and Public Policy [WI] (3.0 cr)
•GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
•GEOG 3381W - Population in an Interacting World [SOCS, GP, WI] (4.0 cr)
•GEOG 3411W - Geography of Health and Health Care [WI] (4.0 cr)
•GEOG 3431 - Plant and Animal Geography [ENVT] (3.0 cr)
•GEOG 4121W - Latin America [WI] (4.0 cr)
•GEOG 5361 - Geography and Real Estate (4.0 cr)
•GEOG 5411 - Geography of Health and Health Care [WI] (4.0 cr)
•GEOG 5421 - Introduction to Atmospheric Science (3.0 cr)
•GEOG 5423 - Climate Models and Modeling (3.0 cr)
•GEOG 5426 - Climatic Variations (3.0 cr)
•GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)
•ESCI 4701 - Geomorphology (3.0 - 4.0 cr)
•SOIL 2125 - Basic Soil Science [PHYS, ENV] (4.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Geographic Information Science

The geographic information science track is concerned with all aspects of geographical information, including collection, storage, manipulation, analysis, and visualization. This track encompasses geographical information science (GIS), cartography, remote sensing, spatial analysis, and numerical modeling. The track is also concerned with the relationship between geographic information science, systems, and society.

Students must take four to five courses in this track, for a minimum of 15 credits.

Required Courses

Students may not take more than 2 GEOG 1xxx courses for the major. Students may substitute GIS-related courses from other departments in consultation with the geography adviser.

Take 4 - 5 course(s) totaling 15 or more credits(s) from the following:

- GEOG 1502 - Mapping Our World [TS, SOCS] (3.0 cr)
- GEOG 3511 - Principles of Cartography (4.0 cr)
- GEOG 3531 - Numerical Spatial Analysis (4.0 cr)
- GEOG 5511 - Principles of Cartography (3.0 cr)
- GEOG 5512 - Cartography: Topics (3.0 cr)
- GEOG 5530 - Cartography Internship (2.0 - 7.0 cr)
- GEOG 5561 - Principles of Geographic Information Science (4.0 cr)
- GEOG 5562 - Geographic Information Science and Analytical Cartography (3.0 cr)
- GEOG 5563 - Advanced Geographic Information Science (3.0 cr)
- GEOG 5564 - Urban Geographic Information Science and Analysis (3.0 cr)
- GEOG 5565 - Geographical Analysis of Human-Environment Systems (3.0 cr)

Twin Cities Campus

German Studies B.A.

German, Scandinavian, & Dutch

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 31
- Degree: Bachelor of Arts

The major in German studies includes the study of the spoken language, as well as the literature, philology, and culture of Germany, Austria, and Switzerland. The department also offers a major and minors in Scandinavian languages, a minor in Dutch, and a minor in Austrian and Central European studies.

The department recommends study abroad in a German-speaking country for at least six months in order to acquire cultural familiarity and language fluency. Students may apply appropriate coursework to a German studies major or a German minor. The University is affiliated with exchange programs in Berlin and Freiburg for both one- and two-semester stays. There are also possibilities for study at many other German, Austrian, and Swiss universities. Visit the Learning Abroad Center website at www.umabroad.umn.edu for more information.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of German.

The major in German studies consists of a minimum of 31 credits in 3xxx, 4xxx, and 5xxx courses. All courses in the major must be taken A-F and completed with a C- or better. At least two courses must be taken in the German program at the University of Minnesota. The major program must be approved by the director of undergraduate studies.

Major Core Courses

GER 3011W - Conversation and Composition [WI] (4.0 cr)
GER 3104W - Reading and Analysis of German Literature [LITR, WI] (3.0 cr)
GSD 3511W - Vikings, Knights, and Reformers: German and European Culture and Controversies to 1700 [WI] (3.0 cr)
GSD 3512W - Imagined Communities: German and European, Culture and Controversies, 1700 to Present [WI] (3.0 cr)

Major Project

The major project is a substantial paper of approximately 20 typed pages. The paper is prepared in the Major Project Seminar (GSD 3451W or 3451V) with the guidance and supervision of a faculty member.

Please note: This seminar is offered fall semester only.
GSD 3451W - Major Project Seminar [WI] (3.0 cr)
or GSD 3451V - Honors Major Project Seminar [WI] (3.0 cr)

Emphasis Areas

Literature, Culture, and Society Emphasis

Up to two courses in this emphasis may be GER 36xx, 46xx, 56xx courses if substantial work in German is done by the student, as directed by the instructors of the courses or by the director of undergraduate studies. One elective can be a course outside the German department, as long as the course includes sufficient coverage of German-speaking areas.
Take 15 or more credits(s) from the following:
•GER 3xxx
•GER 4xxx
•GER 5xxx

-OR-

Linguistics and Philology Emphasis
Take 5 or more course(s) from the following:
•Take 1 or more course(s) from the following:
•LING 3001 - Introduction to Linguistics [SOCS] (4.0 cr)
•LING 3001H - Honors: Introduction to Linguistics (4.0 cr)
•LING 3601 - Historical Linguistics (3.0 cr)
•LING 5001 - Introduction to Linguistics (4.0 cr)
•LING 5601 - Historical Linguistics (3.0 cr)
•Take 4 or more course(s) from the following:
•GER 3701 - History of the German Language (3.0 cr)
•GER 3702 - Beginning Middle High German (3.0 cr)
•GER 3704 - German Dialects (3.0 cr)
•GER 5711 - History of the German Language I (3.0 cr)
•GER 5712 - History of the German Language II (3.0 cr)
•GER 5722 - Middle High German: Advanced Readings (3.0 cr)
•GER 5731 - Old High German I (3.0 cr)
•GER 5732 - Old High German II (3.0 cr)
•GER 5734 - Old Saxon (3.0 cr)
•GER 5740 - Topics in Germanic Medieval Studies (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Global Studies B.A.

Institute for Global Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35 to 41
- Degree: Bachelor of Arts

This program offers students the opportunity to study the interrelated processes shaping today's increasingly interdependent world. Students examine political, economic, cultural, and social processes of local communities, nation states, transnational businesses, and social movements around the globe. The program requires students to integrate theoretical knowledge about broad global processes with regionally focused detailed knowledge of social and cultural systems and language. Students complete a common set of core courses providing a broad overview of issues and approaches to global studies. Each student then chooses a thematic and regional concentration. Coursework is completed by selecting from relevant courses offered by a broad range of departments.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

As preparation for the major, students are encouraged to take 6 credits of related coursework as shown in "Preparatory Courses" listed in the program requirements and take at least one year of foreign language at the college level. Students must formally enroll in the major at the advising office, 206 Social Sciences Building. Students must meet with an adviser to develop a program that meets major guidelines.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of a language appropriate to their chosen regional concentration.

Majors must complete four semesters of second-language study, regardless of demonstrated proficiency, in a language appropriate to the student's chosen region of concentration. All major coursework, excluding the second-language requirement, must be taken A-F. Second-language courses may be taken S-N only upon approval by a Global Studies adviser. Detailed information about concentrations is available in the Global Studies handbook. Students may earn a B.A. or a minor in global studies, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

Note: these courses do not factor into the overall length in credits for the major.
Take 6 or more credits(s) from the following:

- CSCL 1001 - Introduction to Cultural Studies: Rhetoric, Power, Desire [AH, DSJ] (4.0 cr)
- CSCL 1301W - Reading Culture: Theory and Practice [AH, WI] (4.0 cr)
- GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (4.0 cr)
- GLOS 1015W - Globalization: Issues and Challenges [GP, WI] (4.0 cr)
- GLOS 1112 - Globalization and Social Justice (3.0 cr)
- HIST 1012W - The Age of Global Contact [HIS, GP, WI] (4.0 cr)
- HIST 1018 - The Age of Global Contact (3.0 cr)
- POL 1025 - Global Politics [SOCS, GP] (4.0 cr)

Major Courses
GLOS 3144 - Knowledge, Power, and the Politics of Representation in Global Studies (4.0 cr)
GLOS 3145 - Theoretical Approaches to Global Studies (4.0 cr)

Thematic Concentration
Choose a thematic concentration from the following options: Culture, Power, Place; Environment and Sustainable Development; Governance, Peace and Justice in a Global Context; International Political Economy; Population, Migration, and Identity. Courses must be chosen in consultation with a Global Studies adviser. Take 12-18 credits.
One to two breadth courses, depending on the theme (3 to 6 credits).
Ways of knowing course (at least 3 credits) appropriate for theme.
Two to three elective courses (6 to 9 credits), depending on theme.

Regional Concentration
Choose a regional concentration from: Africa, Middle East, East Asia, Europe, Latin America, Russia, or South Asia. Courses must be chosen in consultation with a Global Studies adviser. Take at least 12 credits.
At least one regional breadth course.
At least three additional regional elective courses.

Experiential Learning and Senior Project
Students must participate in a relevant experiential learning opportunity through study abroad, the foreign language immersion program, an internship, or a service learning experience. Work completed in meeting these requirements may count towards the thematic or regional concentrations when approved by an adviser. Students must also complete a major project integrating their regional and thematic concentrations.
GLOS 3981W - Major Project Seminar [WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Greek B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

Greek is the Western language with the longest continuous history, from the poetry of Homer in the first millennium B.C. to the present. This program focuses on literature, philosophy, religion, archaeology, and art associated with the Greek language from its earliest appearance through the golden age of the Greek city-state in the 5th century B.C. and the Roman Empire into the medieval Byzantine Empire. Greek majors who intend to continue in classics graduate studies are strongly advised to study Latin as well.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Students who did not have four years of high school Greek should take GRK 1002. (Note: GRK 1002 carries a GRK 1001 pre-requisite.) All students must take CNES 1002, or 1042, or 1042H, or 1043, or another appropriate course with the approval of the director of undergraduate studies. Note: these courses do not factor into the overall length in credits of the major.

GRK 1002 - Beginning Classical Greek II (5.0 cr)
CNES 1002 - World of Greece [HIS] (3.0 cr)
or CNES 1042 - Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1042H - Honors Course: Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1043 - Introduction to Greek and Roman Archaeology (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Greek.

The four required semesters of a second language do not factor into the overall length of credits in the major.

Students may earn a B.A. or a minor in Greek, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

GRK 3111 and GRK 3112 may not be used to meet this requirement.
Take 14 or more credits(s) from the following:
•GRK 3xxx
•GRK 5xxx

Electives

Take at least twelve total electives credits. Courses used to fulfill the major courses requirement may not also be used to count for the electives requirement. Other courses in history, art history, medieval studies, or other appropriate areas may be used with the approval of the director of undergraduate studies. Note: GRK 3111, GRK 3112, LAT 3100, and LAT 3111 may not be used to fulfill this requirement.

3 credits of CNES 3xxx-5xxx
Take 9 or more credits(s) from the following:
- CNES 3xxx
- CNES 4xxx
- CNES 5xxx
- GRK 3xxx
- GRK 5xxx
- LAT 3xxx
- LAT 5xxx

Senior Project

Students can get a copy of the departmental statement on major projects from the director of undergraduate studies or department office.

Students who complete a major project for another CLA major are not required to complete a major project for Greek but may instead substitute 4 credits of elective courses with the approval of the director of undergraduate studies.
GRK 4951W - Major Project [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Hebrew B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 27 to 29
- Degree: Bachelor of Arts

This program enables students to study the various periods of the Hebrew language covering a span of 3,000 years, from biblical times to the present. The program gives students the tools for work in the fields of literature, social sciences, religious studies, linguistics, and law. Hebrew equips the student for cross-disciplinary learning in several fields--ancient, medieval, and contemporary. Related areas include Jewish studies, religious studies, Arabic, Greek, and the extinct languages of the Near East. Students are encouraged to incorporate study in Israel in one of the many exchange programs involving archaeology, the social sciences, or the humanities (consult the Learning Abroad Center for more information).

Hebrew majors often use their major to complement a second major in another field such as political science, sociology, journalism, history, religious studies, business, speech communications, and linguistics.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 3 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Each HEBR course below requires completion of a prerequisite HEBR course. Note: these courses do not factor into the overall length in credits of the major.

CNES 1001 - World of the Bible: Religions, Empires, and Discourses of Power [AH] (3.0 cr)
or CNES 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or CNES 1082 - Jesus in History (3.0 cr)
or RELS 1082 - Jesus in History (3.0 cr)
or JWST 1034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
or RELS 1034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
HEBR 1002 - Beginning Hebrew II (5.0 cr)
or HEBR 1102 - Beginning Biblical Hebrew II (5.0 cr)
or HEBR 4002 - Beginning Hebrew II (3.0 cr)
or HEBR 4105 - Basics of Biblical Hebrew II (3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Hebrew.

Note: the required four semesters of Hebrew language study do not factor into the overall length in credits of the major, but do satisfy the CLA second language requirement.

Students may earn a B.A. or a minor in Hebrew, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Take 6 or more credits(s) from the following:

- HEBR 3090 - Advanced Modern Hebrew (3.0 cr)
- HEBR 3200 - Advanced Classical Hebrew (3.0 cr)
- HEBR 3300 - Post-Biblical Hebrew: Second Temple Period (3.0 cr)
- HEBR 3400 - Rabbinic Texts (3.0 cr)
- HEBR 3990 - Topics in Hebrew Studies (1.0 - 4.0 cr)
- HEBR 3993 - Directed Studies (1.0 - 4.0 cr)
- HEBR 5090 - Advanced Modern Hebrew (3.0 cr)
- HEBR 5200 - Advanced Classical Hebrew (3.0 cr)
- HEBR 5300 - Post-Biblical Hebrew: Second Temple Period (3.0 cr)
- HEBR 5400 - Rabbinic Texts (3.0 cr)
- HEBR 5992 - Directed Readings (1.0 - 4.0 cr)

Take one of the following course pairs:

HEBR 3011 - Intermediate Hebrew I (5.0 cr)
HEBR 3012 - Intermediate Hebrew II (5.0 cr)
or HEBR 3101 - Intermediate Biblical Hebrew I (4.0 cr)
HEBR 3102 - Intermediate Biblical Hebrew II (4.0 cr)

Electives

Student primarily studying Modern Hebrew must take a minimum of two courses in Classical Hebrew (HEBR 4101 and 4105).
Students primarily studying Classical Hebrew must take a minimum of two courses in Modern Hebrew (HEBR 4001 and 4002).
Complete nine credits of relevant coursework with the approval of the director of undergraduate studies.

Senior Project

Students who complete a major project for another CLA major may substitute four credits of HEBR or related coursework with the approval of the director of undergraduate studies. Students who double major in Hebrew and RELST, JWST, or any CNES major, are especially encouraged to integrate their programs by preparing a senior project that includes a significant Hebrew component.
HEBR 3951W - Major Project [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

History B.A.

History

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- Degree: Bachelor of Arts

History examines the past, seeking to understand the development and changes in human experience from its origins to the present. Historians are interested in documenting and interpreting the past from its diverse theoretical, ideological, and methodological approaches, and at all levels from local history to comparative and global history.

Courses range from surveys to research and intensive seminars, focusing on a rich array of topics - various regions (Europe, Africa, Asia, Latin America, United States), time periods (ancient, medieval, early modern, and modern), methods (social, cultural, economic, quantitative), and comparative themes (gender and sexuality, imperialism, race and ethnicity). Interdisciplinary programs incorporate history into a variety of other programs (history of medicine, global studies, medieval studies, American studies, women's studies).

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

The history major consists of 11 courses: (2) 1xxx-3xxx courses, (8) upper-division courses, and an elective course from any level.

History majors must fulfill three distribution requirements with 1xxx-5xxx courses:

1. Chronological: at least two courses must be pre-modern (roughly pre-1750) in focus, and two courses must be from the modern era (roughly post-1750).

2. Geographic: at least one course in each of two different geographic areas (only one of which may be U.S. and Europe; the second to be Asian, Middle Eastern, African, or Latin American) and one of the following courses in world history: HIST 1011W or 1012V, 1012W or 1012V, 1015W or 1015V, 1017, 1018, 1019, 3415, 3417, 3418, 3419, 3546, 3728, 3778, 3797, 5501.

3. Writing Intensive: of the nine elective courses, at least two must be writing intensive--one 1xxx-3xxx WI survey course and one 3xxx-4xxx WI course (may be a survey, topical lecture, or research seminar).

Students may earn a B.A. or a minor in history, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Survey Courses

At least one of the two survey courses must be writing intensive.
Take 2 or more course(s) from the following:

•Take 0 or more course(s) from the following:
- •HIST 1017 - Origins: Global Societies Before 1500 (3.0 cr)
- •HIST 1018 - The Age of Global Contact (3.0 cr)
- •HIST 1019 - Globalization: Issues and Challenges (3.0 cr)
- •HIST 1026 - Europe and the World: Expansion, Encounter, and Exchange to 1500 (3.0 cr)
- •HIST 1027 - Europe and the World: Expansion, Encounter, and Exchange from 1500 to Present (3.0 cr)
- •HIST 1307 - Authority and Rebellion: American History to 1865 [HIS] (3.0 cr)
- •HIST 1308 - Global America: U.S. History Since 1865 [HIS] (3.0 cr)
- •HIST 3051 - Ancient Civilization: Near East and Egypt [HIS] (3.0 cr)
- •HIST 3052 - Ancient Civilization: Greece (3.0 cr)
- •HIST 3053 - Ancient Civilization: Rome [HIS] (3.0 cr)
- •HIST 3101 - Introduction to Medieval History [HIS, GP] (3.0 cr)
- •HIST 3152 - British History From the Seventeenth Century [HIS, GP] (4.0 cr)
- •HIST 3431 - Early Africa and Its Global Connections [HIS, GP] (4.0 cr)
- •HIST 3432 - Modern Africa in a Changing World [HIS, GP] (4.0 cr)
- •HIST 3461 - Introduction to East Asia I: The Imperial Age (3.0 - 4.0 cr)
- •HIST 3462 - From Subjects to Citizens: The History of East Asia From 1500 to the Present [HIS, GP] (3.0 - 4.0 cr)
- •HIST 3485 - History of Southeast Asia [GP] (3.0 cr)
- •HIST 3505 - Survey of the Modern Middle East [GP] (3.0 cr)
- •HIST 3541 - Islam in World History (3.0 cr)

•Take 1 or more course(s) from the following:
- •HIST 1011W - Civilization and the Environment: World History to 1500 [HIS, ENV, WI] (4.0 cr)
- •HIST 1012W - The Age of Global Contact [HIS, GP, WI] (4.0 cr)
- •HIST 1015W - Globalization: Issues and Challenges [GP, WI] (4.0 cr)
- •HIST 1031W - Europe and the World: Expansion, Encounter, and Exchange to 1500 [HIS, GP, WI] (4.0 cr)
- •HIST 1032W - Europe and the World: Expansion, Encounter, and Exchange from 1500 to Present [HIS, GP, WI] (4.0 cr)
- •HIST 1301W - Authority and Rebellion: American History to 1865 [HIS, DSJ, WI] (4.0 cr)
- •HIST 1302W - Global America: U.S. History Since 1865 [HIS, DSJ, WI] (4.0 cr)
- •HIST 3151W - British History to the 17th Century [HIS, GP, WI] (4.0 cr)
- •HIST 3401W - Early Latin America to 1825 [HIS, GP, WI] (4.0 cr)
- •HIST 3402W - Modern Latin America 1825 to Present [HIS, GP, WI] (4.0 cr)

Major Courses

Three courses must be in an area of concentration as approved by the undergraduate studies office.
Take 6 or more course(s) from the following:
- •HIST 3xxx
- •HIST 4xxx
- •HIST 5xxx

Historiography/Methods

HIST 3959 - How to Do History (3.0 cr)
or HIST 3959H - Honors: How to Do History (3.0 cr)
or HIST 4962 - History Undergraduate Proseminar (3.0 cr)
or HIST 4962H - Undergraduate Honors Proseminar (3.0 cr)

Senior Project

Students must pre-register for the senior paper course (HIST 4961W or 4961V) with the undergraduate studies office at least two semesters in advance.
HIST 4961W - Major Paper [WI] (4.0 cr)
or HIST 4961V - Honors: Major Paper [WI] (4.0 cr)
or HIST 5xxx

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Individually Designed Interdepartmental B.A.

College of Liberal Arts - Adm

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 50
- Degree: Bachelor of Arts

The individually designed interdepartmental major (IDIM) enables students to fulfill program requirements for the B.A. degree by completing an interdepartmental program of coursework focused on a theme of their own choosing, designed in consultation with faculty and staff advisers.

IDIM programs consist of three or four areas of concentration, integrated in such a way that the major has strong thematic unity and coherence.

Working closely with an IDIM adviser, students develop a written proposal and course list that articulates a cohesive and unified interdisciplinary theme. IDIM program proposals must be approved by a committee and three faculty or department advisers with expertise in the areas of concentration. Some departments have established guidelines for students who wish to include concentration areas based in those departments.

For specific information on proposal approval procedures and department guidelines, see the individualized degree programs website at http://idp.class.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For certain concentration areas, prerequisite courses must be completed before submitting a program proposal. For certain concentrations, a minimum overall GPA or a minimum tool course GPA is required before a student can submit a program proposal.

Students can declare the major after attending an information session (held two to three times a week) and preparing a preliminary course list. Students are not approved for the degree until they have submitted a program proposal (the submission deadline is once per semester) and the proposal has been approved by a committee and faculty or department advisers.

See the IDIM adviser for more information.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students must complete at least 50 approved CLA credits distributed among three of four concentration areas, with at least 40 of the 50 credits at 3xxx or above. The concentrations may be departmental or thematic in composition, and each must include at least 11 credits at 3xxx or above.

Students must have their program approved by a committee and three department or faculty advisers. At least 20 credits in the major must be completed after the program has been approved. No more than 12 credits of directed study may be applied toward the program. The CLA requirement of 18 credits at or above 3xxx outside the major does not apply.

Students must complete an integrating senior project, earning at least 2 credits in conjunction with the project. Senior project proposals

must be approved by faculty and staff advisers the semester before the project is begun. Projects may vary widely in form, depending on a student's program. The project proposal and the project itself must be reviewed and approved by one faculty adviser and two faculty readers.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses
Take 50 credits, with at least 40 credits at 3xxx or above in area(s) of concentration, in consultation with an adviser.
Students must complete an integrating senior project, earning at least 2 credits in conjunction with the project.

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Italian Studies B.A.

French & Italian

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 29
- Degree: Bachelor of Arts

The Italian studies undergraduate program examines Italian and Italian-American literature, culture, society, and history. Courses offered provide a historical perspective from the Middle Ages to the present. Students explore a variety of themes ranging from nation-building and national identity to emigration and travel, to gender relations and feminist discourses, to the study of different narrative forms and representations of Italian and Italian-American culture. Students are encouraged to take courses in other departments when these are related to Italian and Italian-American culture. For further information and updates, see the department Web site at www.cla.umn.edu/frit.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Complete the introductory Italian language courses (ITAL 1001-1004). Note: these courses do not factor into the overall length in credits of the major.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Italian.

Students may earn a B.A. or a minor in Italian, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

ITAL 3015 - Reading, Conversation, and Composition (4.0 cr)

Electives

Courses from other departments can count towards the major with the approval of the undergraduate adviser for the Italian program.
Take 8 or more course(s) totaling 24 or more credits(s) from the following:

- ITAL 3xxx
- ITAL 4xxx
- ITAL 5xxx
- ITAL 3837 - Imagining Italy: Italian and Italian-American Culture, History, and Society Through Film (4.0 cr)
- ITAL 4307 - Novellistica (3.0 cr)
- ITAL 3305 - Staging the Self: Theater and Drama in Modern Italy (4.0 cr)
- ITAL 3501 - The World in the City: Italy 1100-1660 (3.0 cr)
- ITAL 3502 - Making of Modern Italy: From the Enlightenment to the Present. (3.0 cr)
- ITAL 3219 - Literature of the Despotisms (4.0 cr)
- ITAL 3550 - Topics in 19th Century Italy (3.0 cr)
- ITAL 3806 - Negotiating the Terms: Italian Film and Literature (3.0 cr)

•ITAL 4303 - Drama and Spectacle in Italy, 1200-1770 (4.0 cr)
•ITAL 3640 - Topics in Italian Studies (3.0 cr)
•ITAL 5337 - Nation and Narration: Writings in the 19th Century (4.0 cr)
•ITAL 5401 - Mondo di Dante (4.0 cr)
•ARCH 4424 - Renaissance Architecture (3.0 cr)
•ARCH 4425 - Baroque Architecture (3.0 cr)
•ENGL 3040 - Studies in Film (3.0 cr)
•FRIT 3802 - Cinema and Realism (3.0 cr)
•FRIT 3803 - New Wave Cinemas: Love, Alienation and Landscape in Post-War Italian and French Film (3.0 cr)
•FRIT 5257 - Passionate Beings: Literary and Medical Problematics in Italy and France from 1800 to the Present (4.0 cr)
•HIST 3053 - Ancient Civilization: Rome [HIS] (3.0 cr)
•HIST 3621 - Renaissance Italy: 1200-1550 (3.0 cr)
•HIST 4071 - History of Rome to 78 B.C. (3.0 cr)
•HIST 4072 - History of Rome: 78 B.C. to A.D. 117 (3.0 cr)
•MEST 3610 - Topics in Medieval Studies (3.0 - 4.0 cr)
•MUS 5620 - Topics in Opera History (3.0 cr)
•ARTH 5335 - Baroque Rome: Art and Politics in the Papal Capital (3.0 cr)
•ARTH 3315 - The Age of Curiosity: Art and Knowledge in Europe, 1500-1800. [AH, TS] (3.0 cr)
•CNES 3104 - Ancient Rome: Kings and Consuls (3.0 cr)
•CNES 3107 - Age of Constantine the Great (3.0 cr)
•CNES 3108 - Age of St. Augustine of Hippo (3.0 cr)

Senior Project

The senior project involves research and writing in Italian on an approved issue or theme. Projects can include scholarly paper, or creative artistic piece such as musical composition, photography, poetry, fiction, etc. All projects include a research/analytical component.

Students must register for an approved elective with concurrent registration in ITAL 3459W. All projects must be developed under the supervision of the faculty teaching the approved elective course.
Take 1 or more course(s) from the following:
•ITAL 3459W - Senior Project [WI] (1.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Jewish Studies B.A.

College of Liberal Arts - Adm

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

This broad, interdisciplinary field studies the civilization of the Jewish people from its beginning in biblical antiquity to the present. The diverse quality of Jewish civilization and the unifying forces of its religion and language offer ample material for the study of continuity, adaptation, and change.

The undergraduate program offers courses in the Bible, Jewish history, Jewish literature, midrash, Jewish philosophy, medieval and modern Jewish studies, Talmud, and rabbinics. The program has links with the Departments of American Studies, Sociology, History, English, German, Music, and Political Science. The University's Center for Holocaust and Genocide Studies offers courses related to the Nazi Holocaust and its aftermath.

Study abroad in Israel or Europe is encouraged as a valuable augment to the major; consult the Learning Abroad Center at (612) 626-9000 for more information.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Hebrew.

Students complete one of two tracks, focusing on either the diversity of Jewish civilization or the the Bible and foundations of ancient Judaism. Either biblical or modern Hebrew may be required, depending on the track chosen.

Preparatory Courses

Choose one course from either of the two groups of courses.

Jewsih History and Civilization

JWST 1034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
or JWST 3034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
or RELS 1034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
or RELS 3034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)

or **The Bible**

CNES 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or CNES 3201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or JWST 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or JWST 3201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or RELS 3201 - The Bible: Context and Interpretation [LITR] (3.0 cr)

Senior Project

Students prepare a senior project in an appropriate area of interest. Consult a faculty adviser.

JWST 4000W - Final Project, Writing Intensive [WI] (4.0 cr)

or JWST 4001W - Final Project, Writing Intensive [WI] (1.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

The Bible and the Foundations of Ancient Judaism

Biblical Hebrew

Take one of the following course pairs:
HEBR 1101 - Beginning Biblical Hebrew I (5.0 cr)
HEBR 1102 - Beginning Biblical Hebrew II (5.0 cr)
or HEBR 4104 - Basics of Biblical Hebrew I (3.0 cr)
HEBR 4105 - Basics of Biblical Hebrew II (3.0 cr)

Biblical and Religious Perspectives

Complete a minimum of 9 credits. Consult an adviser for appropriate coursework.
At least one course in Hebrew Bible/ancient Israel.
At least one course in classical/post-biblical Judaism.
One additional adviser-approved course.

History and Material Culture

The focus of these courses is on the use of history, archaeology, and material culture as ways of contextualizing, challenging, and supplementing the textual record. Appropriate courses include the history and archaeology of the ancient Near East, Israel, or Syro-Palestine.
Complete a minimum of two courses for 6 credits.

Comparative Perspectives

Courses include studies of other cultures and civilizations that are chronologically or geographically contiguous with Israelite/Jewish society through the Rabbinic period.
Complete a minimum of two courses for 6 credits.

Intermediate Biblical Hebrew

Students demonstrating intermediate proficiency (or higher) in biblical Hebrew without formal Hebrew language credits will be asked to complete 8 additional elective credits in lieu of these courses, chosen in consultation with the director of undergraduate studies.
HEBR 3101 - Intermediate Biblical Hebrew I (4.0 cr)
HEBR 3102 - Intermediate Biblical Hebrew II (4.0 cr)

The Diversity of Jewish Civilization-Religion, History, and Culture

Biblical or Modern Hebrew

Take one of the following course pairs:
HEBR 1001 - Beginning Hebrew I (5.0 cr)
HEBR 1002 - Beginning Hebrew II (5.0 cr)
or HEBR 1101 - Beginning Biblical Hebrew I (5.0 cr)
HEBR 1002 - Beginning Hebrew II (5.0 cr)
or HEBR 4001 - Beginning Hebrew I (3.0 cr)
HEBR 4002 - Beginning Hebrew II (3.0 cr)
or HEBR 4104 - Basics of Biblical Hebrew I (3.0 cr)
HEBR 4105 - Basics of Biblical Hebrew II (3.0 cr)

Religious Foundations

The focus of these courses is on biblical and other classical Jewish religious texts, so that students become familiar with the idea of scripture, of authoritative texts and traditions, and of ritual practice. Appropriate topics include Bible, Rabbinics, religious thought and philosophy, ritual studies, history of interpretation, comparative religion, and religion and law. Consult an adviser for specific coursework.
Complete a minimum of two courses for 6 credits.

Historical, Material, and Social Perspectives

Courses may use a range of methodologies to investigate the social construction of Jewish identity in relation to broader categories of gender, ethnicity, race, class, politics, community boundaries, and society. Consult an adviser for appropriate coursework.
Complete a minimum of two courses for 6 credits.

Jewish Creativity and Cultural Production: Commenting on the World

Topics may include: Jewish adaptation of forms and idioms from surrounding cultures; ritual and liturgical expressions of personal and communal religious experience; the image of the Jew in literature, music, or popular culture (whether written by Jews or not); and the development of a distinctive diaspora poetics in Jewish culture. Consult an adviser for appropriate coursework.
Complete a minimum of two courses for 6 credits.

Intermediate Modern or Biblical Hebrew

Students demonstrating intermediate proficiency (or higher) in modern or biblical Hebrew without formal Hebrew language credits will be asked to complete 8 additional elective credits in lieu of these courses, chosen in consultation with the director of undergraduate studies.

Take one of the following course pairs:
HEBR 3011 - Intermediate Hebrew I (5.0 cr)
HEBR 3012 - Intermediate Hebrew II (5.0 cr)
or HEBR 3101 - Intermediate Biblical Hebrew I (4.0 cr)
HEBR 3102 - Intermediate Biblical Hebrew II (4.0 cr)

Electives

Complete one additional course chosen in consultation with an adviser.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Journalism B.A.

School of Journalism & Mass Communication

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36 to 40
- Degree: Bachelor of Arts

The School of Journalism and Mass Communication offers three tracks focused on distinct areas of study.

The professional journalism track prepares students for careers such as news reporting, writing, editing, producing, and photojournalism in traditional and emerging media. The professional strategic communication track prepares students for careers in advertising, public relations, and corporate, non-profit, and advocacy communications. The two professional tracks are based on a liberal arts foundation, knowledge of the social context in which the professions are practiced, and the skills and experiences needed to succeed in the marketplace.

The mass communication track is for students who wish to study the social, political, economic, and legal aspects of mass communication. Students may develop a program emphasis in areas such as history, law, media effects, media industry studies, international communication, or other aspects of mass communication studies represented in the School of Journalism and Mass Communication.

About two-thirds of the coursework for the B.A. degree is outside of journalism in the social sciences, humanities, and other liberal arts. The 120-credit requirement must include at least 80 non-journalism credits, including 65 CLA credits.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Freshman and transfer students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 3.00 already admitted to the degree-granting college
- 3.00 transferring from another University of Minnesota college
- 3.00 transferring from outside the University

The school admits a limited number of undergraduates annually. To apply, students must have completed, or be enrolled in, JOUR 1001 and at least 30 graded (A-F) credits, including at least one semester of study (13 credits) at the University of Minnesota - Twin Cities campus. Students must write a statement of intent for the major application. The statement of intent provides a writing sample for the Admissions Committee, addressing information about academic interests, professional goals, and mass communication or related experience, if any.

Students who are admitted usually have a 3.00 or higher overall GPA, and must have a grade of C or better in JOUR 1001.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Course

JOUR 1001 - Introduction to Mass Communication [SOCS, TS] (3.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may take up to one additional 3-credit professional skills, context, special topics, directed study, or internship course, so long as total program credits do not exceed 40.

Major Courses

JOUR 3004W - Information for Mass Communication [WI] (3.0 cr)
or JOUR 3004V - Honors: Information for Mass Communication [WI] (3.0 cr)

Supporting Courses

Take 12 credits of 3xxx, 4xxx, or 5xxx courses from other departments, chosen in consultation with a major adviser, or complete a major or minor in another department. Note: these 12 credits do not count toward the 36-40 credits required for the JOUR major.

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Mass Communication Track

The Mass Communication track is for students who wish to study the social, political, economic, and legal aspects of mass communication. Students may develop a program emphasis in areas such as history, law, media effects, media industry studies, international communication, or other aspects of mass communication studies represented in the School of Journalism and Mass Communication.

Context Courses

All courses must be chosen in consultation with a major adviser. Directed studies, special topics and honors major project courses may be used to meet this requirement. With adviser approval, one to three professional (skills) courses may count.
Take exactly 30 credits(s) including exactly 4 sub-requirements(s) from the following:

- **History**
  - Take 1 or more course(s) from the following:
  - JOUR 3007 - The Media in American History and Law: Case Studies [HIS] (3.0 cr)
  - JOUR 3614 - History of Media Communication [HIS, TS] (3.0 cr)
  - JOUR 3615 - History of the Documentary [AH] (3.0 cr)
  - JOUR 5601W - History of Journalism [WI] (3.0 cr)
  - JOUR 5606W - Literary Aspects of Journalism [WI] (3.0 cr)
  - JOUR 5615 - History of the Documentary (3.0 cr)
- **International/Multicultural**
  - Take 1 or more course(s) from the following:
  - JOUR 3552 - Internet and Global Society (3.0 cr)
  - JOUR 3741 - People of Color and the Mass Media [DSJ] (3.0 cr)
  - JOUR 3745 - Mass Media and Popular Culture [AH, DSJ] (3.0 cr)
  - JOUR 4801 - Global Communication (3.0 cr)
- **Media Effects**
  - Take 1 or more course(s) from the following:
  - JOUR 3005 - Mass Media Effects [SOCS] (3.0 cr)
  - JOUR 3006 - Visual Communication (3.0 cr)
  - JOUR 4272 - Interactive Advertising (3.0 cr)
  - JOUR 5251 - Psychology of Advertising (3.0 cr)
  - JOUR 5501 - Communication and Public Opinion (3.0 cr)
  - JOUR 5541 - Mass Communication and Public Health (3.0 cr)
- **Media and Society**
  - Take 1 or more course(s) from the following:
  - JOUR 3551 - Economics of New Media [TS] (3.0 cr)
  - JOUR 3745 - Mass Media and Popular Culture [AH, DSJ] (3.0 cr)
  - JOUR 3771 - Mass Media Ethics: Moral Reasoning and Case Studies [CIV] (3.0 cr)
  - JOUR 3775 - Administrative Law and Regulation for Strategic Communication (3.0 cr)
  - JOUR 3776 - Mass Communication Law (3.0 cr)
  - JOUR 3796 - Mass Media and Politics (3.0 cr)
  - JOUR 4274W - Advertising in Society [WI] (3.0 cr)
  - JOUR 4551 - New Media and Culture [AH, TS] (3.0 cr)
  - JOUR 4721 - Mass Media and U.S. Society [SOCS, DSJ] (3.0 cr)

•JOUR 5552 - Law of Internet Communications (3.0 cr)
•JOUR 5725 - Management of Media Organizations (3.0 cr)
•JOUR 5777 - Contemporary Problems in Freedom of Speech and Press (3.0 cr)

Senior Project

The senior project requirement is fulfilled by taking two 4xxx or 5xxx courses as part of the 30-credit Context Courses sub-requirement.

Professional Strategic Communication Track

The Professional Strategic Communication track prepares students for careers in advertising, public relations, corporate, non-profit, and advocacy communications.

Strategic Communication Core Course

JOUR 3201 - Principles of Strategic Communication (3.0 cr)

Capstone Course

JOUR 4263 - Strategic Communication Campaigns (4.0 cr)

Professional Courses

Take a total of five courses for fifteen credits: JOUR 4242 or JOUR 4259 or JOUR 4262, and a minimum of 6 credits from Execution Skills and 6 credits from Planning Skills courses. Courses must be chosen in consultation with a major adviser. Professional courses from the Professional Journalism track may also be used (prerequisites must be met).

JOUR 4242 - Advertising Portfolio Development (3.0 cr)
or JOUR 4259 - Strategic Communication Case Analysis (3.0 cr)
or JOUR 4262 - Management for Strategic Communication (3.0 cr)

Take 6 or more credits(s) from the following:
•JOUR 3241 - Advertising Strategy and Creative Development (3.0 cr)
•JOUR 3275 - Digital Media in Strategic Communication (3.0 cr)
•JOUR 3279W - Professional Writing for Strategic Communication [WI] (3.0 cr)
•JOUR 3321 - Media Design (3.0 cr)
•JOUR 4242 - Advertising Portfolio Development (3.0 cr)

Take 6 or more credits(s) from the following:
•JOUR 3251 - Evaluative Research in Strategic Communication (3.0 cr)
•JOUR 3253 - Account Planning (3.0 cr)
•JOUR 3261 - Media Planning (3.0 cr)
•JOUR 4259 - Strategic Communication Case Analysis (3.0 cr)
•JOUR 4262 - Management for Strategic Communication (3.0 cr)

Context Courses

Take three Context courses for a total of 9 credits, one of which must be at the 4xxx or 5xxx level. Courses must be chosen in consultation with a major adviser.

Take exactly 9 credits(s) from the following:
•JOUR 3005 - Mass Media Effects [SOCS] (3.0 cr)
•JOUR 3006 - Visual Communication (3.0 cr)
•JOUR 3007 - The Media in American History and Law: Case Studies [HIS] (3.0 cr)
•JOUR 3551 - Economics of New Media [TS] (3.0 cr)
•JOUR 3552 - Internet and Global Society (3.0 cr)
•JOUR 3614 - History of Media Communication [HIS, TS] (3.0 cr)
•JOUR 3615 - History of the Documentary [AH] (3.0 cr)
•JOUR 3741 - People of Color and the Mass Media [DSJ] (3.0 cr)
•JOUR 3745 - Mass Media and Popular Culture [AH, DSJ] (3.0 cr)
•JOUR 3771 - Mass Media Ethics: Moral Reasoning and Case Studies [CIV] (3.0 cr)
•JOUR 3775 - Administrative Law and Regulation for Strategic Communication (3.0 cr)
•JOUR 3776 - Mass Communication Law (3.0 cr)
•JOUR 3796 - Mass Media and Politics (3.0 cr)
•JOUR 3991 - Special Topics in Mass Communication: Context (3.0 cr)
•JOUR 3993 - Directed Study (1.0 - 3.0 cr)
•JOUR 4272 - Interactive Advertising (3.0 cr)
•JOUR 4274W - Advertising in Society [WI] (3.0 cr)
•JOUR 4551 - New Media and Culture [AH, TS] (3.0 cr)
•JOUR 4721 - Mass Media and U.S. Society [SOCS, DSJ] (3.0 cr)
•JOUR 4733H - Honors Thesis Seminar [WI] (3.0 cr)
•JOUR 4801 - Global Communication (3.0 cr)
•JOUR 4991 - Special Topics in Mass Communication: Context (3.0 cr)
•JOUR 4993H - Honors: Projects (3.0 cr)
•JOUR 5251 - Psychology of Advertising (3.0 cr)
•JOUR 5501 - Communication and Public Opinion (3.0 cr)
•JOUR 5541 - Mass Communication and Public Health (3.0 cr)
•JOUR 5552 - Law of Internet Communications (3.0 cr)

•JOUR 5601W - History of Journalism [WI] (3.0 cr)
•JOUR 5606W - Literary Aspects of Journalism [WI] (3.0 cr)
•JOUR 5615 - History of the Documentary (3.0 cr)
•JOUR 5725 - Management of Media Organizations (3.0 cr)
•JOUR 5777 - Contemporary Problems in Freedom of Speech and Press (3.0 cr)
•JOUR 5991 - Special Topics in Mass Communication: Context (3.0 cr)
•JOUR 5993 - Directed Study (1.0 - 3.0 cr)

Senior Project

The senior project requirement is fulfilled by taking JOUR 4263 and 4242 or 4259 or 4262.

Professional Journalism Track

The Professional Journalism track prepares students for careers such as news reporting, writing, editing, producing, and photojournalism in traditional and emerging media.

Journalism Core Course

JOUR 3101 - News Reporting and Writing (3.0 cr)

Capstone Courses

JOUR 4171 - Capstone: Covering the Arts (3.0 cr)
or JOUR 4193 - Walter H Brovald and John Cameron Sim Community Newspaper Practicum (3.0 cr)
or JOUR 4303 - Capstone: Documentary Photojournalism (3.0 cr)
or JOUR 4451 - Capstone: Advanced Electronic News Writing and Reporting (3.0 cr)
or JOUR 4452 - Capstone: Electronic Newscast Producing (3.0 cr)
or JOUR 4992 - Capstone: Field Based Practicum (3.0 cr)
or JOUR 5131 - Capstone: In-Depth Reporting (3.0 cr)
or JOUR 5155 - Capstone: Database Reporting (3.0 cr)
or JOUR 5174 - Capstone: Magazine Editing and Production (4.0 cr)

Professional Courses

Courses must be chosen in consultation with a major adviser. Professional courses from the strategic communication track may also be used (prerequisites must be met). Students must take a total of 12-13 credits, including one course at the 4xxx or 5xxx level.
Take 12 - 13 credits(s) from the following:
•JOUR 3102 - Convergence Journalism (3.0 cr)
•JOUR 3121 - Intermediate News Reporting (3.0 cr)
•JOUR 3155 - Editing for Print and Digital Audiences (3.0 cr)
•JOUR 3173W - Magazine Writing [WI] (3.0 cr)
•JOUR 3321 - Media Design (3.0 cr)
•JOUR 3451 - Electronic News Writing and Reporting (3.0 cr)
•JOUR 3990 - Special Topics in Mass Communication: Professional (3.0 cr)
•JOUR 4171 - Capstone: Covering the Arts (3.0 cr)
•JOUR 4193 - Walter H Brovald and John Cameron Sim Community Newspaper Practicum (3.0 cr)
•JOUR 4302 - Electronic Photojournalism (3.0 cr)
•JOUR 4303 - Capstone: Documentary Photojournalism (3.0 cr)
•JOUR 4451 - Capstone: Advanced Electronic News Writing and Reporting (3.0 cr)
•JOUR 4452 - Capstone: Electronic Newscast Producing (3.0 cr)
•JOUR 4990 - Special Topics in Mass Communication: Professional (3.0 cr)
•JOUR 4992 - Capstone: Field Based Practicum (3.0 cr)
•JOUR 5131 - Capstone: In-Depth Reporting (3.0 cr)
•JOUR 5155 - Capstone: Database Reporting (3.0 cr)
•JOUR 5174 - Capstone: Magazine Editing and Production (4.0 cr)
•JOUR 5990 - Special Topics in Mass Communication: Professional (3.0 cr)

Context Courses

Take four Context courses for a total of 12 credits, including JOUR 3776 and one course at the 4xxx or 5xxx level. Courses must be chosen in consultation with a major adviser.
JOUR 3776 - Mass Communication Law (3.0 cr)
Take exactly 9 credits(s) from the following:
•JOUR 3005 - Mass Media Effects [SOCS] (3.0 cr)
•JOUR 3006 - Visual Communication (3.0 cr)
•JOUR 3007 - The Media in American History and Law: Case Studies [HIS] (3.0 cr)
•JOUR 3201 - Principles of Strategic Communication (3.0 cr)
•JOUR 3551 - Economics of New Media [TS] (3.0 cr)
•JOUR 3552 - Internet and Global Society (3.0 cr)
•JOUR 3614 - History of Media Communication [HIS, TS] (3.0 cr)
•JOUR 3615 - History of the Documentary [AH] (3.0 cr)
•JOUR 3741 - People of Color and the Mass Media [DSJ] (3.0 cr)
•JOUR 3745 - Mass Media and Popular Culture [AH, DSJ] (3.0 cr)
•JOUR 3771 - Mass Media Ethics: Moral Reasoning and Case Studies [CIV] (3.0 cr)

- JOUR 3775 - Administrative Law and Regulation for Strategic Communication (3.0 cr)
- JOUR 3796 - Mass Media and Politics (3.0 cr)
- JOUR 3991 - Special Topics in Mass Communication: Context (3.0 cr)
- JOUR 3993 - Directed Study (1.0 - 3.0 cr)
- JOUR 4272 - Interactive Advertising (3.0 cr)
- JOUR 4274W - Advertising in Society [WI] (3.0 cr)
- JOUR 4551 - New Media and Culture [AH, TS] (3.0 cr)
- JOUR 4721 - Mass Media and U.S. Society [SOCS, DSJ] (3.0 cr)
- JOUR 4733H - Honors Thesis Seminar [WI] (3.0 cr)
- JOUR 4801 - Global Communication (3.0 cr)
- JOUR 4991 - Special Topics in Mass Communication: Context (3.0 cr)
- JOUR 4993H - Honors: Projects (3.0 cr)
- JOUR 5251 - Psychology of Advertising (3.0 cr)
- JOUR 5501 - Communication and Public Opinion (3.0 cr)
- JOUR 5541 - Mass Communication and Public Health (3.0 cr)
- JOUR 5552 - Law of Internet Communications (3.0 cr)
- JOUR 5601W - History of Journalism [WI] (3.0 cr)
- JOUR 5606W - Literary Aspects of Journalism [WI] (3.0 cr)
- JOUR 5615 - History of the Documentary (3.0 cr)
- JOUR 5725 - Management of Media Organizations (3.0 cr)
- JOUR 5777 - Contemporary Problems in Freedom of Speech and Press (3.0 cr)
- JOUR 5991 - Special Topics in Mass Communication: Context (3.0 cr)
- JOUR 5993 - Directed Study (1.0 - 3.0 cr)

Senior Project

The senior project requirement is fulfilled by taking a Capstone Course and a 4xxx or 5xxx Professional course.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis or project in the final year, most often in conjunction with honors thesis course JOUR 4733H. Students select honors courses and plan for a thesis or project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Latin B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

Modern "Romance" languages (French, Italian, Spanish, and Portuguese) are derived from Latin, as is much English vocabulary. The Latin major allows students to enjoy a large range of literature written over more than a millennium and a half. It is concerned with the language and literature of the Roman Republic and Empire and later Latin literature from the Middle Ages to the Renaissance, as well as with Roman religion, history, archeology, and art. It is in its essence interdisciplinary; it also has connections with the study of Greek and other ancient languages and cultures, as well as with the majors in classical civilization and religious studies, and minors such as medieval studies. Latin majors who intend to continue in classics graduate studies are encouraged to study Greek as well.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Students who did not take four years of high school Latin should take LAT 1002. (Note: LAT 1002 carries a LAT 1001 pre-requisite.) All students must take CNES 1003, or 1042, or 1042H, or 1043, or another appropriate course with the approval of the director of undergraduate studies. Note: these courses do not factor into the overall length in credits of the major.

LAT 1002 - Beginning Latin II (5.0 cr)
CNES 1003 - World of Rome [HIS] (3.0 cr)
or CNES 1042 - Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1042H - Honors Course: Greek and Roman Mythology [AH] (4.0 cr)
or CNES 1043 - Introduction to Greek and Roman Archaeology (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Latin.

Students may earn a B.A. or a minor in Latin, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

LAT 3100, 3111, 3112, and 5001 may not be used to meet this requirement.
Take 14 or more credits(s) from the following:
•LAT 3xxx
•LAT 5xxx

Electives

Take at least twelve total electives credits. Courses used to fulfill the major courses requirement may not also be used to count for the electives requirement. Other courses in history, art history, medieval studies, or other appropriate areas may be used with the approval of the director of undergraduate studies. Note: GRK 3111 & 3112 and LAT 3100 & 3111 may not be used to fulfill this requirement.

CNES 3xxx-5xxx: 3 credits
Take 9 or more credits(s) from the following:
- CNES 3xxx
- CNES 4xxx
- CNES 5xxx
- GRK 3xxx
- GRK 5xxx
- LAT 3xxx
- LAT 5xxx

Senior Project

Students can get a copy of the departmental statement on major projects from the director of undergraduate studies or department office.

Students who complete a major project for another CLA major are not required to complete a major project for Latin but may instead substitute 4 credits of elective courses with the approval of the director of undergraduate studies.
LAT 4951W - Major Project [WI] (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Linguistics B.A.

Institute of Linguistics

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 34
- Degree: Bachelor of Arts

Linguistics is the scientific study of human language. Courses explore the principles governing the structure of natural languages, how languages are acquired by children and adults, the role of language in human cognition and social interaction, and how languages change over time.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn a B.A. or a minor in linguistics, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Note: Honors students may substitute LING 5201 for LING 4201, or LING 5302 for LING 4302W, or LING 5202 for LING 4202, or LING 5303 for LING 4303. However, LING 4201 and 5201 cannot both be counted towards the degree requirements, nor can 4302 and 5302, or 4202 and 5202, etcetera.

LING 3001 - Introduction to Linguistics [SOCS] (4.0 cr)
or LING 3001H - Honors: Introduction to Linguistics (4.0 cr)
or LING 5001 - Introduction to Linguistics (4.0 cr)
LING 4201 - Syntax I (3.0 cr)
LING 4302W - Phonology I [WI] (3.0 cr)
LING 5205 - Semantics (3.0 cr)
LING 4202 - Syntax II (3.0 cr)
or LING 4303 - Phonology II (3.0 cr)

Electives

No more than 4 credits of LING 1xxx will count. Up to 6 elective credits may be taken in an allied discipline, if approved by the director of undergraduate studies.

Take 15 or more credits(s) from the following:

- LING 1xxx
- LING 2xxx
- LING 3xxx
- LING 4xxx
- LING 5xxx

Senior Project

Complete LING 4901W (honors students take LING 3051H and 3052V) with at least a grade of S. The usual requirement for this course is the revision and expansion of a paper written for another linguistics course, but it may involve an original research paper. Students complete this paper in a seminar offered each spring semester. The topic should be approved by the course instructor before registration for the seminar.

LING 4901W - Major Project Seminar [WI] (3.0 cr)
or LING 3051H - Honors: Thesis (3.0 cr)
LING 3052V - Honors: Thesis [WI] (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Mathematics B.A.

School of Mathematics

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 41
- Degree: Bachelor of Arts

The School of Mathematics offers a program in the College of Liberal Arts leading to a bachelor of arts degree. The course of study is flexible and may be adapted to satisfy a wide variety of interests and needs. Students may prepare for graduate study in mathematics or may emphasize various fields of interest, such as preparation for secondary school teaching; actuarial science; or programs in applied mathematics, including industrial mathematics, biology, mathematics applicable to computer science, and numerical analysis. Programs for the actuarial science, secondary school teaching, and computer science specializations earn a designation that appears on the diploma.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 1 courses before admission to the program.

One 2xxx mathematics course must be completed before admission to the major.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Major Courses

Students in the honors program should substitute the honors calculus sequence (Math 1571H, 1572H, 2573H and 2574H) for these courses.

Calculus Sequence

MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1372 - CSE Calculus II (4.0 cr)
MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)
or MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)
or MATH 2374 - CSE Multivariable Calculus and Vector Analysis (4.0 cr)
MATH 2283 - Sequences, Series, and Foundations (3.0 cr)
or MATH 3283W - Sequences, Series, and Foundations: Writing Intensive [WI] (4.0 cr)

Senior Project

Students should consult with a mathematics adviser prior to beginning the senior year.
MATH 4997W - Senior project (Writing Intensive) [WI] (1.0 cr)
or MATH 4995 - Senior Project for CLA (1.0 cr)
or Senior Project

Mathematics Options

Mathematics (No Specialization)
Students who do not choose one of the other specializations must complete the basic requirements listed here.
Take 6 or more course(s) including 2 or more sub-requirements(s) from the following:
- **Algebra Sequence**
  - Take 2 or more course(s) from the following:
  - Take 1 or more course(s) from the following:
    - MATH 4281 - Introduction to Modern Algebra (4.0 cr)
    - MATH 5248 - Cryptology and Number Theory (4.0 cr)
    - MATH 5251 - Error-Correcting Codes, Finite Fields, Algebraic Curves (4.0 cr)
    - MATH 5285H - Honors: Fundamental Structures of Algebra I (4.0 cr)
    - MATH 5286H - Honors: Fundamental Structures of Algebra II (4.0 cr)
    - MATH 5385 - Introduction to Computational Algebraic Geometry (4.0 cr)
  - Take 0 or more course(s) from the following:
    - MATH 4242 - Applied Linear Algebra (4.0 cr)
    - MATH 5705 - Enumerative Combinatorics (4.0 cr)
    - MATH 5707 - Graph Theory and Non-enumerative Combinatorics (4.0 cr)
    - MATH 5711 - Linear Programming and Combinatorial Optimization (4.0 cr)
    - MATH 5485 - Introduction to Numerical Methods I (4.0 cr)
- **Analysis Sequence**
  - Take 2 or more course(s) from the following:
  - MATH 4606 - Advanced Calculus (4.0 cr)
  - MATH 5486 - Introduction To Numerical Methods II (4.0 cr)
  - MATH 5525 - Introduction to Ordinary Differential Equations (4.0 cr)
  - MATH 5535 - Dynamical Systems and Chaos (4.0 cr)
  - MATH 5583 - Complex Analysis (4.0 cr)
  - MATH 5587 - Elementary Partial Differential Equations I (4.0 cr)
  - MATH 5588 - Elementary Partial Differential Equations II (4.0 cr)
  - MATH 5652 - Introduction to Stochastic Processes (4.0 cr)
  - MATH 5654 - Prediction and Filtering (4.0 cr)
  - MATH 5615H - Honors: Introduction to Analysis I (4.0 cr)
  - MATH 5616H - Honors: Introduction to Analysis II (4.0 cr)
  - MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
    or STAT 5101 - Theory of Statistics I (4.0 cr)
- **Addditional Electives**
  - Take 0 or more course(s) from the following:
  - MATH 4xxx
  - MATH 5xxx

-OR-

Actuarial Science Specialization
Complete the requirements for the Actuarial Science subplan.

-OR-

Mathematics Education Specialization
Complete the requirements for the Mathematics Education subplan.

-OR-

Computer Applications Specialization
Complete the requirements for the Computer Applications subplan.

Program Sub-plans
A sub-plan is not required for this program.

Actuarial Science
Math and Computer Science
MATH 4065 - Theory of Interest (4.0 cr)
MATH 5067 - Actuarial Mathematics I (4.0 cr)
MATH 5068 - Actuarial Mathematics II (4.0 cr)
CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
or CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)

or STAT 5101 - Theory of Statistics I (4.0 cr)
MATH 5652 - Introduction to Stochastic Processes (4.0 cr)
or STAT 5102 - Theory of Statistics II (4.0 cr)
MATH 4242 - Applied Linear Algebra (4.0 cr)
Take 1 or more course(s) from the following:
•MATH 4281 - Introduction to Modern Algebra (4.0 cr)
•MATH 5248 - Cryptology and Number Theory (4.0 cr)
•MATH 5251 - Error-Correcting Codes, Finite Fields, Algebraic Curves (4.0 cr)
•MATH 5285H - Honors: Fundamental Structures of Algebra I (4.0 cr)
•MATH 5286H - Honors: Fundamental Structures of Algebra II (4.0 cr)
•MATH 5385 - Introduction to Computational Algebraic Geometry (4.0 cr)
•MATH 5711 - Linear Programming and Combinatorial Optimization (4.0 cr)

Economics and Business

ACCT 2050 - Introduction to Financial Reporting (4.0 cr)
ECON 3101 - Intermediate Microeconomics (4.0 cr)
FINA 3001 - Finance Fundamentals (3.0 cr)
ECON 4751 - Financial Economics (3.0 cr)
Take one of the following pairs of courses.
ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
ECON 1102 - Principles of Macroeconomics (4.0 cr)
or ECON 1104 *{Inactive}*(4.0 cr)
ECON 1105 *{Inactive}*(4.0 cr)
Take 2 or more course(s) from the following:
•INS 4100 - Corporate Risk Management (2.0 cr)
•INS 4101 - Employee Benefits (2.0 cr)
•INS 4200 - Insurance Theory and Practice (2.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Computer Applications

Computing Applications

MATH 5486 may be used to count towards the analysis distribution requirement and MATH 5485 towards the algebra requirement.
CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)
MATH 5165 - Mathematical Logic I (4.0 cr)
MATH 5485 - Introduction to Numerical Methods I (4.0 cr)
MATH 5486 - Introduction To Numerical Methods II (4.0 cr)
CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
or CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
or CSCI 1901 - Structure of Computer Programming I (4.0 cr)

Additional Mathematics

Take 3 or more course(s) from the following:
•**Additional Algebra Course**
•Take 1 or more course(s) from the following:
•MATH 4281 - Introduction to Modern Algebra (4.0 cr)
•MATH 5248 - Cryptology and Number Theory (4.0 cr)
•MATH 5251 - Error-Correcting Codes, Finite Fields, Algebraic Curves (4.0 cr)
•MATH 5285H - Honors: Fundamental Structures of Algebra I (4.0 cr)
•MATH 5286H - Honors: Fundamental Structures of Algebra II (4.0 cr)
•MATH 5385 - Introduction to Computational Algebraic Geometry (4.0 cr)
•**Additional Analysis Course**
•Take 1 or more course(s) from the following:
•MATH 4606 - Advanced Calculus (4.0 cr)
•MATH 5525 - Introduction to Ordinary Differential Equations (4.0 cr)

•MATH 5535 - Dynamical Systems and Chaos (4.0 cr)
•MATH 5583 - Complex Analysis (4.0 cr)
•MATH 5587 - Elementary Partial Differential Equations I (4.0 cr)
•MATH 5588 - Elementary Partial Differential Equations II (4.0 cr)
•MATH 5652 - Introduction to Stochastic Processes (4.0 cr)
•MATH 5654 - Prediction and Filtering (4.0 cr)
•MATH 5615H - Honors: Introduction to Analysis I (4.0 cr)
•MATH 5616H - Honors: Introduction to Analysis II (4.0 cr)
•MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
or STAT 5101 - Theory of Statistics I (4.0 cr)

Upper Division Computer Science

Take 3 or more course(s) from the following:
•CSCI 4041 - Algorithms and Data Structures (4.0 cr)
•CSCI 5107 - Fundamentals of Computer Graphics 1 (3.0 cr)
•CSCI 5108 - Fundamentals of Computer Graphics II (3.0 cr)
•CSCI 5403 - Computational Complexity (3.0 cr)
•CSCI 5421 - Advanced Algorithms and Data Structures (3.0 cr)
•CSCI 5511 - Artificial Intelligence I (3.0 cr)
•CSCI 5521 - Pattern Recognition (3.0 cr)
•CSCI 5512 - Artificial Intelligence II (3.0 cr)

Education

Seven math courses are chosen specifically for preparation to teach in secondary education, including two courses from the algebra list and two courses from the analysis list. MATH 4707 will be accepted as an algebra course only for students completing this specialization.

Mathematics

These courses fulfill the both the algebra and analysis requirements.
MATH 5335 - Geometry I (4.0 cr)
MATH 4242 - Applied Linear Algebra (4.0 cr)
or MATH 4281 - Introduction to Modern Algebra (4.0 cr)
or MATH 5285H - Honors: Fundamental Structures of Algebra I (4.0 cr)
MATH 4707 - Introduction to Combinatorics and Graph Theory (4.0 cr)
or MATH 5705 - Enumerative Combinatorics (4.0 cr)
or MATH 5707 - Graph Theory and Non-enumerative Combinatorics (4.0 cr)
MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
or STAT 5101 - Theory of Statistics I (4.0 cr)
Take 3 or more course(s) from the following:
•MATH 4xxx
•MATH 5xxx

Twin Cities Campus

Microbiology B.A.

Microbiology

College of Liberal Arts

- **Students will no longer be accepted into this program after Fall 2008. Program requirements below are for current students only.**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 66
- Degree: Bachelor of Arts

Microbiology examines the nature and activities of microorganisms, the distinctive micropscopic life forms that recycle the elements in aquatic, atmospheric, and soil environments. The field has applications for fields of industry, agriculture, and medicine. As remarkably useful model systems for research, microorganisms play a key role in the development of modern biology. The program prepares students for graduate study or professional work in microbiology as well as in related biological fields.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

General and Organismal Biology

Choose either sequence A or B or C.

Sequence A

BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
BIOL 1002W *{Inactive}*[WI] (5.0 cr)

or **Sequence B**

BIOL 1009 - General Biology [BIOL] (4.0 cr)

Animal Biology Courses

Take the following course or course pair:
BIOL 2012 - General Zoology (4.0 cr)
or **BIOL 3211-2005 sequence**
BIOL 3211 - Physiology of Humans and Other Animals (3.0 cr)
BIOL 2005 - Animal Diversity Laboratory (2.0 cr)

or **Sequence C**

BIOL 1009 - General Biology [BIOL] (4.0 cr)

Plant Biology Courses

Take either BIOL 2022 or 3007W, or both BIOL 3002 and 3005W.
BIOL 2022 - General Botany (3.0 cr)
or BIOL 3007W - Plant, Algal, and Fungal Diversity and Adaptation [WI] (4.0 cr)
or **BIOL 3002-3005W sequence**
BIOL 3002 - Plant Biology: Function (2.0 cr)
BIOL 3005W - Plant Function Laboratory [WI] (2.0 cr)

Mathematics

MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1281 *{Inactive}*[MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1282 *{Inactive}*(4.0 cr)

Chemistry
CHEM 1021 *{Inactive}*[PHYS] (4.0 cr)
CHEM 1022 *{Inactive}*[PHYS] (4.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)

Physics
PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

Major Core Curriculum
BIOL 4003 - Genetics (3.0 cr)
MICB 3301 - Biology of Microorganisms (5.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)

Electives
Take 4 or more course(s) from the following:
•MICB 4111 - Microbial Physiology and Diversity (3.0 cr)
•MICB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
•MICB 4131 - Immunology (3.0 cr)
•MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
•MICB 4141W - Biology, Genetics, and Pathogenesis of Viruses: Writing Intensive [WI] (4.0 cr)
or MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)

Lab Electives
Choose Option A or B. If Option B is chosen, MICB 4794W/4994 must be taken for 6 credits.
Option A
MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)
Take 6 or more credits(s) from the following:
•MICB 4993 - Directed Studies (1.0 - 6.0 cr)
•MICB 4994 - Directed Research (1.0 - 7.0 cr)
or **Option B**
MICB 4994 - Directed Research (1.0 - 7.0 cr)
MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
or MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)

Final Project
Complete 6 credits in one of the following:
MICB 4993 - Directed Studies (1.0 - 6.0 cr)
or MICB 4994 - Directed Research (1.0 - 7.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors
This is an honors sub-plan.

Eligibility is based on the GPA in the student's final 60 graded credits (the full semester in which the 60th credit is received will be included) at the University of Minnesota, Twin Cities campus (transfer credits are not included). Satisfactory completion of at least four upper division honors opportunities after completion of the 60th semester credit is required. One of the four honors opportunities must be outside the major field, a second is achieved through the honors thesis or project, and at least two of the four must be honors classroom experiences. Students must complete the honors requirements for their degree within two years of the term in which they apply for graduation. All honors courses must be graded A-F.

CLA Honors

Honors Opportunity 1
Honors Opportunity 2
A senior project that is acceptable for an honors project for cum laude and magna cum laude. For summa cum laude, students must complete a thesis which must be approved unanimously by a committee of three faculty members, two from the major department and one from outside the major.
HSEM 3xxx
or HSEM 4xxx

Twin Cities Campus

Music B. Mus.

School of Music

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120 to 123
- Required credits within the major: 78 to 99
- Degree: Bachelor of Music

The B.Mus. in performance is a professional degree in which music courses make up approximately 75 percent of the program.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission to a music program is contingent upon passing an audition. Auditions are highly competitive with students normally having studied for a number of years: a minimum of three-to-four years in voice, guitar, or on an orchestral or band instrument, eight-to-twelve years on piano. Auditions are held during the spring semester prior to fall entrance. Some instruments require a DVD screening round.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn a major or a minor in music, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Music Theory and Ear Training

Take 11 courses for 18 credits.
MUS 1501 - Theory and Analysis of Tonal Music I (2.0 cr)
MUS 1502 - Theory and Analysis of Tonal Music II (2.0 cr)
MUS 1511 - Ear-Training and Sight-Singing I (1.0 cr)
MUS 1512 - Ear-Training and Sight-Singing II (1.0 cr)
MUS 3501 - Theory and Analysis of Tonal Music III (2.0 cr)
MUS 3502 - Theory and Analysis of Tonal Music IV (2.0 cr)
MUS 3511 - Ear-Training and Sight-Singing III (1.0 cr)
MUS 3512 - Ear-Training and Sight-Singing IV (1.0 cr)
MUS 4504 - Intensive Theory and Analysis of 20th-Century Music (2.0 cr)
MUS 4514 - Ear-Training and Sight-Singing for 20th-Century Music (1.0 cr)
MUS 5541 - 16th-Century Counterpoint (3.0 cr)
or MUS 4502 - 18th-Century Counterpoint (3.0 cr)
or MUS 4505 - Jazz Theory (3.0 cr)

Musicology/Ethnomusicology

Take 4 courses for 12 credits.
MUS 1801W - Music, Society, and Cultures [AH, GP, WI] (3.0 cr)
MUS 3601W - History of Western Music I [WI] (3.0 cr)
MUS 3602W - History of Western Music II [WI] (3.0 cr)
MUS 3603W - History of Western Music III [WI] (3.0 cr)

Conducting
Take 1 course for 2 credits.
MUS 3401 - Basic Conducting (2.0 cr)

Recital
MUS 901 - Junior Recital (0.0 cr)
MUS 951 - Senior Recital (0.0 cr)

Instrumental/Vocal Specializations

Classical Guitar
Credit requirements in each course group must be satisfied by taking the courses for multiple semesters. Students may need to take more than six credits of electives in order to reach the 78-credit requirement for the major.
Keyboard
Take either MUS 1155 or MUS 1151 & 1152 for 2-4 credits.
MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)
Applied Music
Take 32 or more credits(s) from the following:
•Take 8 or more credits(s) from the following:
•MUSA 1323 - Guitar: Music Major (2.0 - 4.0 cr)
•Take 8 or more credits(s) from the following:
•MUSA 2323 - Guitar: Music Major (2.0 - 4.0 cr)
•Take 16 or more credits(s) from the following:
•MUSA 3323 - Guitar: Music Major (2.0 - 4.0 cr)
Ensemble
Take 2 or more course(s) totaling 2 or more credits(s) from the following:
•MUS 3230 - Chorus (1.0 - 2.0 cr)
•MUS 5240 - University Singers (1.0 cr)
•Take 2 or more course(s) totaling 2 or more credits(s) from the following:
•MUS 3440 - Chamber Ensemble (1.0 cr)
Electives
Take 6 or more credits(s) from the following:
•MUS 1xxx
•MUS 2xxx
•MUS 3xxx

-OR-

Harp
Credit requirements in each course group must be satisfied by taking the courses for multiple semesters. Students may need to take more than two credits of electives in order to reach the 78-credit requirement for the major.
Keyboard
Take either MUS 1155 or MUS 1151 & 1152 for 2-4 credits.
MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)
Applied Music
Take 32 or more credits(s) from the following:
•Take 8 or more credits(s) from the following:
•MUSA 1322 - Harp: Music Major (2.0 - 4.0 cr)
•Take 8 or more credits(s) from the following:
•MUSA 2322 - Harp: Music Major (2.0 - 4.0 cr)
•Take 16 or more credits(s) from the following:
•MUSA 3322 - Harp: Music Major (2.0 - 4.0 cr)
Ensemble
Take 8 semesters of MUS 3420 at one credit per term.
Take 8 or more credits(s) from the following:
•MUS 3420 - Orchestra (1.0 cr)
Electives
Take 2 or more credits(s) from the following:
•MUS 1xxx
•MUS 2xxx
•MUS 3xxx

-OR-

Organ

Credit requirements in each course group must be satisfied by taking the courses for multiple semesters.

Keyboard

Take 4 courses for a minimum of 9 credits.

MUS 1155 - Keyboard Skills I (2.0 cr)
MUS 5151 - Organ Literature I (3.0 cr)
MUS 5152 - Organ Literature II (3.0 cr)
MUSA 1401 - Piano: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)
or MUSA 1402 - Harpsichord: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)
or MUS 3331 - Jazz Improvisation I (2.0 cr)
or MUS 3440 - Chamber Ensemble (1.0 cr)
or MUS 5430 - Contemporary Music Workshop (1.0 cr)

Applied Music

Take 32 or more credits(s) from the following:

- Take 8 or more credits(s) from the following:
  - MUSA 1303 - Organ: Music Major (2.0 - 4.0 cr)
- Take 8 or more credits(s) from the following:
  - MUSA 2303 - Organ: Music Major (2.0 - 4.0 cr)
- Take 16 or more credits(s) from the following:
  - MUSA 3303 - Organ: Music Major (2.0 - 4.0 cr)

Ensemble

Take 6 or more course(s) totaling 6 or more credits(s) from the following:

- MUS 3200 - Campus Singers (2.0 cr)
- MUS 3230 - Chorus (1.0 - 2.0 cr)
- MUS 5240 - University Singers (1.0 cr)

-OR-

Piano

Credit requirements in each course group must be satisfied by taking the courses for multiple semesters. Students may need to take more than two credits of electives in order to reach the 78-credit requirement for the major.

Keyboard

Take 4 courses for a minimum of 7 credits.

MUS 1155 - Keyboard Skills I (2.0 cr)
MUS 5101 - Piano Pedagogy I (2.0 cr)
MUS 5181 - Advanced Piano Literature I (2.0 cr)
or MUS 5182 - Advanced Piano Literature II (2.0 cr)
MUSA 1402 - Harpsichord: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)
or MUSA 1403 - Organ: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)
or MUS 3331 - Jazz Improvisation I (2.0 cr)
or MUS 3440 - Chamber Ensemble (1.0 cr)
or MUS 5430 - Contemporary Music Workshop (1.0 cr)

Applied Music

Take 32 or more credits(s) from the following:

- Take 8 or more credits(s) from the following:
  - MUSA 1301 - Piano: Music Major (2.0 - 4.0 cr)
- Take 8 or more credits(s) from the following:
  - MUSA 2301 - Piano: Music Major (2.0 - 4.0 cr)
- Take 16 or more credits(s) from the following:
  - MUSA 3301 - Piano: Music Major (2.0 - 4.0 cr)

Ensemble

Take 4 or more course(s) totaling 4 or more credits(s) from the following:

- MUS 3440 - Chamber Ensemble (1.0 cr)
- MUS 5440 - Chamber Ensemble (1.0 cr)

Electives

Take 2 or more credits(s) from the following:

- MUS 1xxx
- MUS 2xxx
- MUS 3xxx

-OR-

String, Woodwind, Brass, Percussion

Credit requirements in each course group must be satisfied by taking the courses for multiple semesters.

Keyboard

Take either MUS 1155 or MUS 1151 & 1152 for 2-4 credits.
MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)

Applied Music

Take 32 or more credits(s) from the following:
•Take 8 or more credits(s) from the following:
•MUSA 1305 - Violin: Music Major (2.0 - 4.0 cr)
•MUSA 1306 - Viola: Music Major (2.0 - 4.0 cr)
•MUSA 1307 - Cello: Music Major (2.0 - 4.0 cr)
•MUSA 1308 - Double Bass: Music Major (2.0 - 4.0 cr)
•MUSA 1309 - Flute: Music Major (2.0 - 4.0 cr)
•MUSA 1311 - Oboe: Music Major (2.0 - 4.0 cr)
•MUSA 1312 - Clarinet: Music Major (2.0 - 4.0 cr)
•MUSA 1313 - Saxophone: Music Major (2.0 - 4.0 cr)
•MUSA 1314 - Bassoon: Music Major (2.0 - 4.0 cr)
•MUSA 1315 - French Horn: Music Major (2.0 - 4.0 cr)
•MUSA 1316 - Trumpet: Music Major (2.0 - 4.0 cr)
•MUSA 1317 - Trombone: Music Major (2.0 - 4.0 cr)
•MUSA 1318 - Euphonium: Music Major (2.0 - 4.0 cr)
•MUSA 1319 - Tuba: Music Major (2.0 - 4.0 cr)
•MUSA 1321 - Percussion: Music Major (2.0 - 4.0 cr)
•Take 8 or more credits(s) from the following:
•MUSA 2305 - Violin: Music Major (2.0 - 4.0 cr)
•MUSA 2306 - Viola: Music Major (2.0 - 4.0 cr)
•MUSA 2307 - Cello: Music Major (2.0 - 4.0 cr)
•MUSA 2308 - Double Bass: Music Major (2.0 - 4.0 cr)
•MUSA 2309 - Flute: Music Major (2.0 - 4.0 cr)
•MUSA 2311 - Oboe: Music Major (2.0 - 4.0 cr)
•MUSA 2312 - Clarinet: Music Major (2.0 - 4.0 cr)
•MUSA 2313 - Saxophone: Music Major (2.0 - 4.0 cr)
•MUSA 2314 - Bassoon: Music Major (2.0 - 4.0 cr)
•MUSA 2315 - French Horn: Music Major (2.0 - 4.0 cr)
•MUSA 2316 - Trumpet: Music Major (2.0 - 4.0 cr)
•MUSA 2317 - Trombone: Music Major (2.0 - 4.0 cr)
•MUSA 2318 - Euphonium: Music Major (2.0 - 4.0 cr)
•MUSA 2319 - Tuba: Music Major (2.0 - 4.0 cr)
•MUSA 2321 - Percussion: Music Major (2.0 - 4.0 cr)
•Take 16 or more credits(s) from the following:
•MUSA 3305 - Violin: Music Major (2.0 - 4.0 cr)
•MUSA 3306 - Viola: Music Major (2.0 - 4.0 cr)
•MUSA 3307 - Cello: Music Major (2.0 - 4.0 cr)
•MUSA 3308 - Double Bass: Music Major (2.0 - 4.0 cr)
•MUSA 3309 - Flute: Music Major (2.0 - 4.0 cr)
•MUSA 3311 - Oboe: Music Major (2.0 - 4.0 cr)
•MUSA 3312 - Clarinet: Music Major (2.0 - 4.0 cr)
•MUSA 3313 - Saxophone: Music Major (2.0 - 4.0 cr)
•MUSA 3314 - Bassoon: Music Major (2.0 - 4.0 cr)
•MUSA 3315 - French Horn: Music Major (2.0 - 4.0 cr)
•MUSA 3316 - Trumpet: Music Major (2.0 - 4.0 cr)
•MUSA 3317 - Trombone: Music Major (2.0 - 4.0 cr)
•MUSA 3318 - Euphonium: Music Major (2.0 - 4.0 cr)
•MUSA 3319 - Tuba: Music Major (2.0 - 4.0 cr)
•MUSA 3321 - Percussion: Music Major (2.0 - 4.0 cr)

Band or Orchestra

Take 8 or more course(s) totaling 8 or more credits(s) from the following:
•MUS 3410 - University Wind Bands (1.0 cr)
•MUS 3420 - Orchestra (1.0 cr)

Chamber Ensemble

Take 4 or more course(s) totaling 4 or more credits(s) from the following:
•MUS 3340 - Jazz Ensemble (1.0 cr)
•MUS 3350 - Jazz Combo (1.0 cr)
•MUS 3440 - Chamber Ensemble (1.0 cr)
•MUS 5440 - Chamber Ensemble (1.0 cr)
•MUS 5480 - University Brass Choir (1.0 cr)

•MUS 5490 - Percussion Ensemble (1.0 cr)

-OR-

Voice

Credit requirements in each course group must be satisfied by taking the courses for multiple semesters.

Keyboard

Take either MUS 1155 or MUS 1151 & 1152 for 2-4 credits.

MUS 1155 - Keyboard Skills I (2.0 cr)

or MUS 1151 - Piano: Class Lessons I (2.0 cr)

MUS 1152 - Piano: Class Lessons II (2.0 cr)

Ensemble

Take one course each semester.

Take 8 or more course(s) totaling 8 - 10 credits(s) from the following:

•Take 6 - 8 course(s) totaling 6 - 8 credits(s) from the following:

•MUS 3230 - Chorus (1.0 - 2.0 cr)

•MUS 5240 - University Singers (1.0 cr)

•Take 0 - 2 course(s) totaling 0 - 4 credits(s) from the following:

•MUS 5250 - Opera Workshop and Ensemble (2.0 cr)

•MUS 5280 - Opera Theatre (2.0 cr)

Applied Music

Take 32 or more credits(s) from the following:

•Take 8 or more credits(s) from the following:

•MUSA 1304 - Voice: Music Major (2.0 - 4.0 cr)

•Take 8 or more credits(s) from the following:

•MUSA 2304 - Voice: Music Major (2.0 - 4.0 cr)

•Take 16 or more credits(s) from the following:

•MUSA 3304 - Voice: Music Major (2.0 - 4.0 cr)

Diction and Vocal Literature

Take 6 courses for 6 credits.

MUS 3241 - Vocal Literature (German Lieder) and Pedagogy (1.0 cr)

MUS 3242 - Vocal Literature (French Melodie) and Pedagogy (1.0 cr)

MUS 3261 - Italian Diction for Singers (1.0 cr)

MUS 3262 - English Diction for Singers (1.0 cr)

MUS 3263 - German Diction for Singers (1.0 cr)

MUS 3264 - French Diction for Singers (1.0 cr)

Language

FREN 1001 - Beginning French (5.0 cr)

GER 1001 - Beginning German (5.0 cr)

ITAL 1001 - Beginning Italian (5.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Music B.A.

School of Music

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 34
- Degree: Bachelor of Arts

The B.A. program is for students who wish to major in music within a broad liberal arts degree program.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Music Theory and Ear Training

MUS 1501 - Theory and Analysis of Tonal Music I (2.0 cr)
MUS 1502 - Theory and Analysis of Tonal Music II (2.0 cr)
MUS 1511 - Ear-Training and Sight-Singing I (1.0 cr)
MUS 1512 - Ear-Training and Sight-Singing II (1.0 cr)
MUS 3501 - Theory and Analysis of Tonal Music III (2.0 cr)
MUS 3511 - Ear-Training and Sight-Singing III (1.0 cr)

Musicology/Ethnomusicology

Ethnomusicology

MUS 1801W - Music, Society, and Cultures [AH, GP, WI] (3.0 cr)
or MUS 1804 - World Music [AH, GP] (3.0 cr)

History of Western Music

MUS 3601W - History of Western Music I [WI] (3.0 cr)
MUS 3602W - History of Western Music II [WI] (3.0 cr)
MUS 3603W - History of Western Music III [WI] (3.0 cr)

Keyboard

For non-keyboard majors, MUS 1155 may be substituted for MUS 1151-1152.
MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)

Performance Requirement

The performance requirement may be fulfilled by School of Music ensemble credits, private or group lesson instruction credits (beyond keyboard requirement), or composition lessons.
Performance Requirement (minimum 1 cr.)

Electives

Take 9 or more credits(s) from the following:

•MUS 1013 - Rock I: The Historical Origins and Development of Rock Music to 1970 [AH, DSJ] (3.0 cr)
•MUS 1014 - Rock II: Rock Music from 1970 to the Present [DSJ, AH] (3.0 cr)
•MUS 3xxx
•MUS 4xxx
•MUS 5xxx

Research and Senior Project
MUS 3995 - Major Project (1.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Music Education B. Mus

School of Music

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 123 to 127
- Required credits within the major: 99 to 108
- Degree: Bachelor of Music

The degree in music education is offered with two concentrations: instrumental/general music K-12 and choral/general. The instrumental/general concentration requires that a student be admitted via audition on an orchestral or band instrument; the choral/general concentration requires that a student be admitted in voice, piano, or organ. Completion of the degree in music education culminates in eligibility for state licensure in the concentration area.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission to a music program is contingent upon passing an audition. Auditions are highly competitive with students normally having studied for a number of years: a minimum of three to four years in voice, guitar, or on an orchestral or band instrument, eight to twelve years on piano. Auditions are held throughout the academic year. Incoming freshmen normally take the audition during the winter of their senior year of high school; transfer students one semester prior to the term in which they plan to enroll. Students applying for the program in music education are also required to pass an interview with the music education faculty.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn a major or a minor in music, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Music Theory and Ear Training

MUS 1501 - Theory and Analysis of Tonal Music I (2.0 cr)
MUS 1502 - Theory and Analysis of Tonal Music II (2.0 cr)
MUS 1511 - Ear-Training and Sight-Singing I (1.0 cr)
MUS 1512 - Ear-Training and Sight-Singing II (1.0 cr)
MUS 3501 - Theory and Analysis of Tonal Music III (2.0 cr)
MUS 3502 - Theory and Analysis of Tonal Music IV (2.0 cr)
MUS 3511 - Ear-Training and Sight-Singing III (1.0 cr)
MUS 3512 - Ear-Training and Sight-Singing IV (1.0 cr)

Creativity and Improvisation

MUED 3101 - Improvisation and Creativity in the Music Classroom (2.0 cr)

Musicology/Ethnomusicology

MUS 1801W - Music, Society, and Cultures [AH, GP, WI] (3.0 cr)
MUS 3601W - History of Western Music I [WI] (3.0 cr)
MUS 3602W - History of Western Music II [WI] (3.0 cr)
MUS 3603W - History of Western Music III [WI] (3.0 cr)

Keyboard

For non-keyboard majors, MUS 1155 may be substituted for MUS 1151-1152. Keyboard majors must consult departmental adviser for appropriate course series.

MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)

Professional Education

Note: majors must take EDHD 5008 for a maximum of 1 credit, and EPSY 5720 for a minimum of 2 credits.

EDHD 5001 - Learning, Cognition, and Assessment (3.0 cr)
EDHD 5003 - Developmental and Individual Differences in Educational Contexts (2.0 cr)
EDHD 5005 - School and Society (2.0 cr)
EDHD 5008 - Reading in the Content Areas for Initial Licensure Candidates (1.0 - 2.0 cr)
EDHD 5009 - Human Relations: Applied Skills for School and Society (1.0 cr)
EPSY 5720 - Special Topics: Special Education (1.0 - 4.0 cr)
PUBH 3003 - Fundamentals of Alcohol and Drug Abuse (2.0 cr)
or PUBH 3005 - Fundamentals of Alcohol and Drug Abuse for Teacher Education (1.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Instrumental/General Music Education

Students successfully completing the program will meet licensure requirements to teach band, orchestra, and general classroom music in grades K-12 in Minnesota.

Major Courses

Note: majors must take MUED 5350 & 5550 for a combined minimum of 10 credits.

MUED 1201 - Introduction to Music Education (2.0 cr)
MUED 3301 - General Music I (3.0 cr)
MUED 3302 - General Music II (3.0 cr)
MUED 3502 - String Techniques and Teaching (2.0 cr)
MUED 3503 - Woodwind Techniques and Teaching (2.0 cr)
MUED 3504 - Brass Techniques and Teaching (2.0 cr)
MUED 3505 - Percussion Techniques and Teaching (2.0 cr)
MUED 3516 - Instrumental Methods and Conducting I (3.0 cr)
MUED 3517 - Instrumental Methods and Conducting II (3.0 cr)
MUED 3519 - Advanced Conducting and Repertoire (Instrumental) (2.0 cr)
MUED 5350 - Student Teaching in Classroom Music (4.0 - 8.0 cr)
MUED 5550 - Student Teaching in Instrumental Music (4.0 - 8.0 cr)
MUED 5650 - Student Teaching Seminar (2.0 cr)

Applied Music

Students must complete: MUS 1260 or MUS 1404; two semesters at 2 credits per term of 12xx courses; two semesters at 2 credits per term of 22xx courses; and three semesters at 2 credits per term of 32xx courses.

MUS 1260 - Voice Class (2.0 cr)
or MUSA 1404 - Voice: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)

Take 4 or more credits(s) from the following:

- MUSA 1205 - Violin: Music Education and BA (2.0 cr)
- MUSA 1206 - Viola: Music Education and BA (2.0 cr)
- MUSA 1207 - Cello: Music Education and BA (2.0 cr)
- MUSA 1208 - Double Bass: Music Education and BA (2.0 cr)
- MUSA 1209 - Flute: Music Education and BA (2.0 cr)
- MUSA 1211 - Oboe: Music Education and BA (2.0 cr)
- MUSA 1212 - Clarinet: Music Education and BA (2.0 cr)
- MUSA 1213 - Saxophone: Music Ed and BA (2.0 cr)
- MUSA 1214 - Bassoon: Music Education and BA (2.0 cr)
- MUSA 1215 - French Horn: Music Education and BA (2.0 cr)
- MUSA 1216 - Trumpet: Music Education and BA (2.0 cr)
- MUSA 1217 - Trombone: Music Education and BA (2.0 cr)
- MUSA 1218 - Euphonium: Music Education and BA (2.0 cr)
- MUSA 1219 - Tuba: Music Education and BA (2.0 cr)

•MUSA 1221 - Percussion: Music Ed and BA (2.0 cr)
•MUSA 1222 - Harp: Music Education and BA (2.0 cr)
Take 4 or more credits(s) from the following:
•MUSA 2205 - Violin: Music Education and BA (2.0 cr)
•MUSA 2206 - Viola: Music Education and BA (2.0 cr)
•MUSA 2207 - Cello: Music Education and BA (2.0 cr)
•MUSA 2208 - Bass: Music Education and BA (2.0 cr)
•MUSA 2209 - Flute: Music Education and BA (2.0 cr)
•MUSA 2211 - Oboe: Music Education and BA (2.0 cr)
•MUSA 2212 - Clarinet: Music Education and BA (2.0 cr)
•MUSA 2213 - Saxophone: Music Education and BA (2.0 cr)
•MUSA 2214 - Bassoon: Music Education and BA (2.0 cr)
•MUSA 2215 - French Horn: Music Education and BA (2.0 cr)
•MUSA 2216 - Trumpet: Music Education and BA (2.0 cr)
•MUSA 2217 - Trombone: Music Education and BA (2.0 cr)
•MUSA 2218 - Euphonium: Music Education and BA (2.0 cr)
•MUSA 2219 - Tuba: Music Education and BA (2.0 cr)
•MUSA 2221 - Percussion: Music Education and BA (2.0 cr)
•MUSA 2222 - Harp: Music Education and BA (2.0 cr)
Take 6 or more credits(s) from the following:
•MUSA 3205 - Violin: Music Education and BA (2.0 cr)
•MUSA 3206 - Viola: Music Education and BA (2.0 cr)
•MUSA 3207 - Cello: Music Education and BA (2.0 cr)
•MUSA 3208 - Double Bass: Music Education and BA (2.0 cr)
•MUSA 3209 - Flute: Music Education and BA (2.0 cr)
•MUSA 3211 - Oboe: Music Education and BA (2.0 cr)
•MUSA 3212 - Clarinet: Music Education and BA (2.0 cr)
•MUSA 3213 - Saxophone: Music Education and BA (2.0 cr)
•MUSA 3214 - Bassoon: Music Education and BA (2.0 cr)
•MUSA 3215 - French Horn: Music Education and BA (2.0 cr)
•MUSA 3216 - Trumpet: Music Education and BA (2.0 cr)
•MUSA 3217 - Trombone: Music Education and BA (2.0 cr)
•MUSA 3218 - Euphonium: Music Education and BA (2.0 cr)
•MUSA 3219 - Tuba: Music Education and BA (2.0 cr)
•MUSA 3221 - Percussion: Music Education and BA (2.0 cr)
•MUSA 3222 - Harp: Music Education and BA (2.0 cr)

Ensemble Requirement

Band or orchestra (1 credit per semester) is required for a minimum of six semesters, to be selected in consultation with a departmental adviser. An ensemble course (1 credit per semester) is required for a minimum of one semester.
Take exactly 6 credits(s) from the following:
•MUS 3410 - University Wind Bands (1.0 cr)
•MUS 3420 - Orchestra (1.0 cr)

Ensemble

MUS 3340 - Jazz Ensemble (1.0 cr)
or MUS 3350 - Jazz Combo (1.0 cr)
or MUS 3440 - Chamber Ensemble (1.0 cr)
or MUS 5480 - University Brass Choir (1.0 cr)
or MUS 5490 - Percussion Ensemble (1.0 cr)

Conducting

MUS 3401 - Basic Conducting (2.0 cr)

Choral/General Music Education

This program is for students majoring in voice, piano, organ, or classical guitar who want to teach choral and classroom music in the elementary and secondary schools. Students successfully completing the program will meet licensure requirements to teach choral and general classroom music in grades K-12 in Minnesota.

Major Courses

Note: majors must take MUED 5350 & 5450 for a combined minimum of 10 credits.
MUED 1201 - Introduction to Music Education (2.0 cr)
MUED 3301 - General Music I (3.0 cr)
MUED 3302 - General Music II (3.0 cr)
MUED 3415 - Choral Conducting and Methods I (3.0 cr)
MUED 3416 - Choral Conducting and Methods II (3.0 cr)
MUED 3419 - Advanced Conducting and Repertoire (Choral) (2.0 cr)
MUED 5350 - Student Teaching in Classroom Music (4.0 - 8.0 cr)

MUED 5450 - Student Teaching in Vocal Music (4.0 - 8.0 cr)
MUED 5650 - Student Teaching Seminar (2.0 cr)

Pedagogy and Diction

MUED 3417 - Style, Pedagogy, and Diction in the Choral Music Classroom I (2.0 cr)
MUED 3418 - Style, Pedagogy, and Diction in the Choral Music Classroom II (2.0 cr)

Ensemble Requirements

MUS 3230 or MUS 5240 is required for a minimum of seven semesters (1 credit each semester), selected in consultation with a departmental adviser.
Take 7 or more credits(s) from the following:
•MUS 3230 - Chorus (1.0 - 2.0 cr)
•MUS 5240 - University Singers (1.0 cr)

Conducting

MUS 3401 - Basic Conducting (2.0 cr)

Instrument Focus

Voice

Students must complete two semesters at two credits per term of MUSA 1204; two semesters at 2 credits per term of MUSA 2204; and three semesters at two credits per term of MUSA 3204. Additionally, students must complete 4 credits of MUSA 1401.

Applied Voice - 1204

Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 1204 - Voice: Music Education and BA (2.0 cr)
Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 2204 - Voice: Music Education and BA (2.0 cr)
Take 3 or more course(s) totaling 6 or more credits(s) from the following:
•MUSA 3204 - Voice: Music Education and BA (2.0 cr)

Applied Piano

Take 4 or more credits(s) from the following:
•MUSA 1401 - Piano: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)

-OR-

Piano

Students must complete two semesters at two credits per term of MUSA 1201; two semesters at two credits per term of MUSA 2201; and three semesters at two credits per term of MUSA 3201. Additionally, students must complete 4 credits of MUSA 1404.

Applied Piano - 1201

Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 1201 - Piano: Music Education and BA (2.0 cr)
Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 2201 - Piano: Music Ed and BA (2.0 cr)
Take 3 or more course(s) totaling 6 or more credits(s) from the following:
•MUSA 3201 - Piano: Music Ed and BA (2.0 cr)

Applied Voice

Take 4 or more credits(s) from the following:
•MUSA 1404 - Voice: Music Major Secondary (undergraduate) (2.0 - 4.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Music Therapy B. Mus.

School of Music

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120 to 124
- Required credits within the major: 93 to 107
- Degree: Bachelor of Music

This program prepares students for a profession in music therapy, using music to influence behavioral changes in people, from pre-school through geriatrics, in a variety of educational and health-related environments.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission to a music program is contingent upon passing an audition. Auditions are highly competitive with students normally having studied for a number of years: a minimum of three to four years in voice, guitar, or on an orchestral or band instrument, eight to twelve years on piano. Auditions are held throughout the academic year. Incoming freshmen normally take the audition during the winter of their senior year of high school; transfer students one semester prior to the term in which they plan to enroll. Students applying for the program in music therapy are required to pass an interview with music education/therapy faculty.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students may earn a major or a minor in music, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Take all of the following courses for a total of 26 credits.
MUED 1801 - Introduction to Music Therapy (2.0 cr)
MUED 5800 - Group Music Leadership Skills (3.0 cr)
MUED 5804 - Music Therapy Methods and Procedures I (4.0 cr)
MUED 5805 - Music Therapy Methods and Procedures II (4.0 cr)
MUED 5806 - Career Preparation (4.0 cr)
MUED 5669 - Psychology of Music (3.0 cr)
MUED 3807 - Percussion Techniques for Music Therapists (2.0 cr)
MUED 5803 - Therapeutic Management in Music Settings (4.0 cr)

Music Theory and Ear Training

Take all of the following courses for a total of 12 credits.
MUS 1501 - Theory and Analysis of Tonal Music I (2.0 cr)
MUS 1502 - Theory and Analysis of Tonal Music II (2.0 cr)
MUS 1511 - Ear-Training and Sight-Singing I (1.0 cr)
MUS 1512 - Ear-Training and Sight-Singing II (1.0 cr)
MUS 3501 - Theory and Analysis of Tonal Music III (2.0 cr)
MUS 3502 - Theory and Analysis of Tonal Music IV (2.0 cr)
MUS 3511 - Ear-Training and Sight-Singing III (1.0 cr)

MUS 3512 - Ear-Training and Sight-Singing IV (1.0 cr)

Musicology/Ethnomusicology

Take all of the following courses for a total of 12 credits.
MUS 1801W - Music, Society, and Cultures [AH, GP, WI] (3.0 cr)
MUS 3601W - History of Western Music I [WI] (3.0 cr)
MUS 3602W - History of Western Music II [WI] (3.0 cr)
MUS 3603W - History of Western Music III [WI] (3.0 cr)

Keyboard

Take a total of 2-4 credits by completing MUS 1151 & 1152 OR MUS 1155 & 1156. Non-keyboard majors with advanced keyboard skills may substitute MUS 1155 for MUS 1151 & 1152, subject to departmental approval. Keyboard majors must take MUS 1155 & 1156.
MUS 1155 - Keyboard Skills I (2.0 cr)
or MUS 1151 - Piano: Class Lessons I (2.0 cr)
MUS 1152 - Piano: Class Lessons II (2.0 cr)
or MUS 1155 - Keyboard Skills I (2.0 cr)

Guitar

Take all of the following courses for a total of 4 credits.
MUED 3802 - Guitar I for Music Education and Music Therapy Majors: Developing Group Songleading Skills (2.0 cr)
MUED 3803 - Guitar II for Music Education and Music Therapy Majors: Developing Group Songleading Skills (2.0 cr)

Conducting

Take the following course for a total of 2 credits.
MUS 3401 - Basic Conducting (2.0 cr)

Applied Music

Take a minimum of 14 credits by completing two semesters at 2 credits per semester of 12xx courses; two semesters at 2 credits per semester of 22xx courses; and three semesters at 6 credits per semester of 32xx courses.
Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 1201 - Piano: Music Education and BA (2.0 cr)
•MUSA 1203 - Organ: Music Education and BA (2.0 cr)
•MUSA 1204 - Voice: Music Education and BA (2.0 cr)
•MUSA 1205 - Violin: Music Education and BA (2.0 cr)
•MUSA 1206 - Viola: Music Education and BA (2.0 cr)
•MUSA 1207 - Cello: Music Education and BA (2.0 cr)
•MUSA 1208 - Double Bass: Music Education and BA (2.0 cr)
•MUSA 1209 - Flute: Music Education and BA (2.0 cr)
•MUSA 1211 - Oboe: Music Education and BA (2.0 cr)
•MUSA 1212 - Clarinet: Music Education and BA (2.0 cr)
•MUSA 1213 - Saxophone: Music Ed and BA (2.0 cr)
•MUSA 1214 - Bassoon: Music Education and BA (2.0 cr)
•MUSA 1215 - French Horn: Music Education and BA (2.0 cr)
•MUSA 1216 - Trumpet: Music Education and BA (2.0 cr)
•MUSA 1217 - Trombone: Music Education and BA (2.0 cr)
•MUSA 1218 - Euphonium: Music Education and BA (2.0 cr)
•MUSA 1219 - Tuba: Music Education and BA (2.0 cr)
•MUSA 1221 - Percussion: Music Ed and BA (2.0 cr)
•MUSA 1222 - Harp: Music Education and BA (2.0 cr)
•MUSA 1223 - Guitar: Music Education and BA (2.0 cr)
Take 2 or more course(s) totaling 4 or more credits(s) from the following:
•MUSA 2201 - Piano: Music Ed and BA (2.0 cr)
•MUSA 2203 - Piano: Music Education and BA (2.0 cr)
•MUSA 2204 - Voice: Music Education and BA (2.0 cr)
•MUSA 2205 - Violin: Music Education and BA (2.0 cr)
•MUSA 2206 - Viola: Music Education and BA (2.0 cr)
•MUSA 2207 - Cello: Music Education and BA (2.0 cr)
•MUSA 2208 - Bass: Music Education and BA (2.0 cr)
•MUSA 2209 - Flute: Music Education and BA (2.0 cr)
•MUSA 2211 - Oboe: Music Education and BA (2.0 cr)
•MUSA 2212 - Clarinet: Music Education and BA (2.0 cr)
•MUSA 2213 - Saxophone: Music Education and BA (2.0 cr)
•MUSA 2214 - Bassoon: Music Education and BA (2.0 cr)
•MUSA 2215 - French Horn: Music Education and BA (2.0 cr)

•MUSA 2216 - Trumpet: Music Education and BA (2.0 cr)
•MUSA 2217 - Trombone: Music Education and BA (2.0 cr)
•MUSA 2218 - Euphonium: Music Education and BA (2.0 cr)
•MUSA 2219 - Tuba: Music Education and BA (2.0 cr)
•MUSA 2221 - Percussion: Music Education and BA (2.0 cr)
•MUSA 2222 - Harp: Music Education and BA (2.0 cr)
•MUSA 2223 - Guitar: Music Education and BA (2.0 cr)
Take 3 or more course(s) totaling 6 or more credits(s) from the following:
•MUSA 3201 - Piano: Music Ed and BA (2.0 cr)
•MUSA 3203 - Organ: Music Education and BA (2.0 cr)
•MUSA 3204 - Voice: Music Education and BA (2.0 cr)
•MUSA 3205 - Violin: Music Education and BA (2.0 cr)
•MUSA 3206 - Viola: Music Education and BA (2.0 cr)
•MUSA 3207 - Cello: Music Education and BA (2.0 cr)
•MUSA 3208 - Double Bass: Music Education and BA (2.0 cr)
•MUSA 3209 - Flute: Music Education and BA (2.0 cr)
•MUSA 3211 - Oboe: Music Education and BA (2.0 cr)
•MUSA 3212 - Clarinet: Music Education and BA (2.0 cr)
•MUSA 3213 - Saxophone: Music Education and BA (2.0 cr)
•MUSA 3214 - Bassoon: Music Education and BA (2.0 cr)
•MUSA 3215 - French Horn: Music Education and BA (2.0 cr)
•MUSA 3216 - Trumpet: Music Education and BA (2.0 cr)
•MUSA 3217 - Trombone: Music Education and BA (2.0 cr)
•MUSA 3218 - Euphonium: Music Education and BA (2.0 cr)
•MUSA 3219 - Tuba: Music Education and BA (2.0 cr)
•MUSA 3221 - Percussion: Music Education and BA (2.0 cr)
•MUSA 3222 - Harp: Music Education and BA (2.0 cr)

Ensembles
Take a minimum of seven semesters of ensemble courses.
Take 7 or more credits(s) from the following:
•MUS 3230 - Chorus (1.0 - 2.0 cr)
•MUS 3410 - University Wind Bands (1.0 cr)
•MUS 3420 - Orchestra (1.0 cr)
•MUS 5240 - University Singers (1.0 cr)

Special Needs Courses
Take all of the following courses for a total of 11 credits.
PSTL 1135 - Essentials of Human Anatomy and Physiology [BIOL] (4.0 cr)
PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
PSY 3604 - Introduction to Abnormal Psychology (3.0 cr)

Internship
A six-month internship is required upon completion of all coursework. The internship can be taken for 1-13 credits.
MUED 5855 - Music Therapy Internship (1.0 - 13.0 cr)

Voice and Recital
Take all of the following courses for a total of 2 credits.
MUS 951 - Senior Recital (0.0 cr)
MUS 1260 - Voice Class (2.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an

honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Philosophy B.A.

Philosophy

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30
- Degree: Bachelor of Arts

Philosophy examines and analyzes the presuppositions of our thought in both ordinary life and in the arts and sciences. Fields within philosophy are moral and political philosophy, history of philosophy, logic (including philosophy of mathematics), philosophy of language, philosophy of religion, philosophy of science (including philosophy of physics, of biology, and of the social sciences), metaphysics, epistemology, and aesthetics.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Note: majors may count no more than 8 credits of PHIL 1xxx toward their degree, and at least two 3-or-more-credit courses must be PHIL 4xxx or higher. Students may earn a B.A. or a minor in philosophy, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Required Courses

History of Philosophy

PHIL 3001W - General History of Western Philosophy: Ancient Period [AH, WI] (4.0 cr)
or PHIL 3005W - General History of Western Philosophy: Modern Period [AH, WI] (4.0 cr)

Logic

PHIL 1001 - Introduction to Logic [MATH] (4.0 cr)
or PHIL 5201 - Symbolic Logic I (4.0 cr)

Epistemology

PHIL 3601W - Scientific Thought [WI] (4.0 cr)
or PHIL 4105W - Epistemology [WI] (3.0 cr)

Ethical Theory

PHIL 3311W - Introduction to Ethical Theory [WI] (4.0 cr)
or PHIL 4310W - History of Moral Theories [WI] (3.0 cr)
or PHIL 4320W - Intensive Study of an Historical Moral Theory [WI] (3.0 cr)
or PHIL 4321W - Theories of Justice [WI] (3.0 cr)
or PHIL 4330 - Contemporary Moral Theories (3.0 cr)
or PHIL 4414 - Political Philosophy (3.0 cr)

Philosophy Electives

Note: some students may have to take additional electives to reach the 30-credit minimum required for graduation.
Take 3 or more course(s) totaling 9 or more credits(s) from the following:

•PHIL 3xxx
•PHIL 4xxx
•PHIL 5xxx

Senior Project
A senior project is required and is typically a paper.
PHIL 4995 - Senior Project (Directed Studies) (1.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Ethics and Civic Life
The Department of Philosophy's optional concentration in ethics and civic life is an opportunity for students who are interested in ethics and community service to relate their experiences in the classroom to their work in the community and vice versa. Students who complete the concentration will receive acknowledgment on their transcripts.

Core Courses
Take 3 or more course(s) from the following:
•PHIL 1004W - Introduction to Political Philosophy [AH, CIV, WI] (4.0 cr)
•PHIL 1006W - Philosophy and Cultural Diversity [AH, DSJ, WI] (4.0 cr)
•PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
•PHIL 3302W - Moral Problems of Contemporary Society [CIV, WI] (4.0 cr)
•PHIL 3304 - Law and Morality (4.0 cr)
•PHIL 3305 - Medical Ethics (4.0 cr)
•PHIL 3307 - Social Justice and Community Service [AH, CIV] (4.0 cr)
•PHIL 3602 - Science, Technology, and Society (3.0 cr)
•PHIL 4325 - Education and Social Change [AH, CIV] (4.0 cr)
•PHIL 4326 - Lives Worth Living: Questions of Self, Vocation, and Community [CIV, AH] (6.0 cr)
•PHIL 4414 - Political Philosophy (3.0 cr)
•PHIL 4622 - Philosophy and Feminist Theory (3.0 cr)

Community Service
The community service component may be completed by taking a practicum course in philosophy (for example, PHIL 1007 in conjunction with 1004W); a community service component of one of the above courses; or a directed study in philosophy with a community service component.

Twin Cities Campus

Physics B.A.

School of Physics & Astronomy

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 40
- Degree: Bachelor of Arts

The undergraduate physics program prepares students for employment, often in industrial or governmental laboratories, or for further study at graduate or professional schools in physics, engineering, biophysics, medicine, education, law, or business.

The program integrates a broad foundation in physics that can be flexibly combined with coursework in other technical disciplines or used to specialize in physics. Students should consult a physics adviser to help formulate objectives for undergraduate study.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn no more than one undergraduate degree in the Physics program: a B.A. or a B.S. or a minor.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Mathematics

Complete a total of four courses from the calculus sequence or honors calculus sequence. These course do not count toward the total number of credits required for the major.

Calculus Sequence

MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
or MATH 1372 - CSE Calculus II (4.0 cr)
MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)
or MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)
MATH 2263 - Multivariable Calculus (4.0 cr)
or MATH 2374 - CSE Multivariable Calculus and Vector Analysis (4.0 cr)

or **Honors Sequence**

MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1572H - Honors Calculus II (4.0 cr)
MATH 2573H - Honors Calculus III (4.0 cr)
MATH 2574H - Honors Calculus IV (4.0 cr)

Major Courses

Physics I

PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)

Physics II

PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)

Physics III

PHYS 2503 - Physics III: Intro to Waves, Optics, and Special Relativity (4.0 cr)
or PHYS 2403H - Honors Physics III (4.0 cr)

Other Lower-division Requirements

PHYS 2201 - Introductory Thermodynamics and Statistical Physics (3.0 cr)
PHYS 2601 - Quantum Physics (4.0 cr)
PHYS 2605 - Quantum Physics Laboratory (3.0 cr)
PHYS 4051 - Methods of Experimental Physics I (5.0 cr)

Upper-Division Requirements

Take 2 or more course(s) from the following:
•PHYS 4001 - Analytical Mechanics (4.0 cr)
•PHYS 4002 - Electricity and Magnetism (4.0 cr)
•PHYS 4101 - Quantum Mechanics (4.0 cr)

Senior Project

The senior project is completed in PHYS 4025W, or by some alternate means subject to prior departmental approval. Should the approved alternate physics project total fewer than 5 credits, an additional physics elective at the 3xxx-level or higher is required to meet the 5-credit senior project minimum.
PHYS 4052W - Methods of Experimental Physics II [WI] (5.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Physiology B.A.

Integrative Biology and Physiology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 57 to 65
- Degree: Bachelor of Arts

The physiology major concentrates on understanding the functions of the human body from individual cells to organ systems. The program is based upon principles from chemistry, physics, mathematics, and biological sciences.

This major is particularly appropriate for students who intend to enter medical school or graduate study in any of a variety of biological, health, or biomedical sciences. The required courses form a strong core in biomedical science. Many of the required courses are identical to those required for admission to medical school. Students may tailor the overall degree program to specific needs and may choose additional science courses in preparation for medical school, other health sciences professional schools, or graduate school. Students may also take advantage of the freedom to pursue a more diverse undergraduate experience in CLA. Others may benefit from an opportunity to pursue a double major.

For the latest information, visit the physiology major website: http://physiology.med.umn.edu/undergrad.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Coursework

These courses are prerequisites for future physiology coursework, such as PHSL 3061 and 3062W.

MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1272 - Calculus II (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Physics Sequence

Physics I

PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)

Physics II

PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)

Major Core Curriculum

BIOL 4003 - Genetics (3.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
CHEM 2302 - Organic Chemistry II (3.0 cr)
CHEM 2311 - Organic Lab (4.0 cr)
PHSL 3061 - Principles of Physiology (4.0 cr)
PHSL 3062W - Research Paper for Physiology Majors [WI] (1.0 cr)
PHSL 3701 - Physiology Laboratory (2.0 cr)
Take 1 or more course(s) from the following:
- PHSL 3095 - Problems in Physiology (1.0 - 5.0 cr)
- PHSL 4021 - Advanced Physiology and Bioengineering: Bionic Human (3.0 cr)
- PHSL 4031 - Physiological Discussions: Contemporary Topics (2.0 cr)
- PHSL 4095H - Honors Problems in Physiology (2.0 - 4.0 cr)
- PHSL 4900 - Advanced Physiology Teaching Laboratory (1.0 - 6.0 cr)
- PHSL 5444 - Muscle (3.0 cr)
- PHSL 5510 - Advanced Cardiac Physiology and Anatomy (2.0 - 3.0 cr)
- PHSL 5525 - Anatomy and Physiology of the Pelvis and Urinary System (1.0 - 2.0 cr)
- PHSL 5700 - Cell Physiology (4.0 cr)
- **Cell Biology**
  - BIOL 4004 - Cell Biology (3.0 cr)
  - *or* GCD 3033 - Principles of Cell Biology (3.0 cr)
  - *or* PHSL 4700 - Cell Physiology (3.0 cr)

Biochemistry
BIOC 3021 - Biochemistry (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)

Electives
A course taken as a major requirement cannot also count as an elective.
Take 3 or more course(s) totaling 6 or more credits(s) from the following:
- ANAT 3601 - Principles of Human Anatomy (3.0 cr)
- ANAT 3602 - Principles of Human Anatomy Laboratory (2.0 cr)
- ANAT 3608H - Principles of Human Anatomy Laboratory for Honors Students (3.0 cr)
- ANAT 3611 - Principles of Human Anatomy (3.0 cr)
- ANAT 3612 - Principles of Human Anatomy Laboratory (2.0 cr)
- ANAT 4900 - Directed Studies in Anatomy (1.0 - 6.0 cr)
- ANAT 5525 - Anatomy and Physiology of the Pelvis and Urinary System (1.0 - 2.0 cr)
- BIOC 4xxx
- BIOL 4993 - Directed Studies (1.0 - 6.0 cr)
- BIOL 4994 - Directed Research (1.0 - 6.0 cr)
- CHEM 4xxx
- CSCI 3xxx
- CSCI 4xxx
- GCD 4025 - Cell Biology Laboratory (2.0 cr)
- GCD 4034 - Molecular Genetics (3.0 cr)
- GCD 4111 - Histology: Cell and Tissue Organization (4.0 cr)
- GCD 4161 - Developmental Biology (3.0 cr)
- GCD 5036 - Molecular Cell Biology (3.0 cr)
- MATH 2xxx
- MICB 3301 - Biology of Microorganisms (5.0 cr)
- MICB 4131 - Immunology (3.0 cr)
- PHSL 3095 - Problems in Physiology (1.0 - 5.0 cr)
- PHSL 4021 - Advanced Physiology and Bioengineering: Bionic Human (3.0 cr)
- PHSL 4031 - Physiological Discussions: Contemporary Topics (2.0 cr)
- PHSL 4095H - Honors Problems in Physiology (2.0 - 4.0 cr)
- PHSL 4700 - Cell Physiology (3.0 cr)
- PHSL 4900 - Advanced Physiology Teaching Laboratory (1.0 - 6.0 cr)
- PHSL 5115 - Clinical Physiology I (3.0 cr)
- PHSL 5116 - Clinical Physiology II (3.0 cr)
- PHSL 5444 - Muscle (3.0 cr)
- PHSL 5510 - Advanced Cardiac Physiology and Anatomy (2.0 - 3.0 cr)
- PHSL 5525 - Anatomy and Physiology of the Pelvis and Urinary System (1.0 - 2.0 cr)
- PHSL 5700 - Cell Physiology (4.0 cr)
- PSY 3011 - Introduction to Learning and Behavior (3.0 cr)
- PSY 3031 - Introduction to Sensation and Perception (3.0 cr)
- PSY 3061 - Introduction to Biological Psychology (3.0 cr)
- PSY 5012 - Learning and Cognition in Animals (4.0 cr)

- PSY 5031W - Perception [WI] (3.0 cr)
- PSY 5036W - Computational Vision [WI] (3.0 cr)
- PSY 5037 - Psychology of Hearing (3.0 cr)
- PSY 5038W - Introduction to Neural Networks [WI] (3.0 cr)
- PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
- STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
- STAT 3022 - Data Analysis (4.0 cr)
- STAT 5021 - Statistical Analysis (4.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Political Science B.A.

Political Science

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 32
- Degree: Bachelor of Arts

Political scientists study topics such as the exercise of power and influence; sources and resolution of conflicts; the relation of politics to the economy, culture, and other aspects of society; the adoption and implementation of public policies; and the development of political systems. These topics are studied at all levels, from local communities to the global community.

The scope of the discipline is reflected in the main areas of specialization that make up the undergraduate curriculum: political theory, comparative government and politics, international relations, and American governmental systems and processes. In addition, undergraduates may choose from several optional concentrations: business and politics, campaigns and elections, citizenship and civic action, global politics, law and politics, democratization and development, political psychology, beliefs, and behavior, and public affairs.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

It is strongly recommended that students complete one POL 1xxx course prior to admission to the major. See "Preparatory Courses" under program requirements for suggested courses.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

The Political Science B.A. consists of a minimum of 32 credits, at least 24 of which must be upper-division (POL 3xxx-4xxx). Choosing a sub-plan concentration is optional. Note: POL 3070, 3080, 3085, 3108H, 3110H, 4900V, 4970 may be used to meet the 24-credit upper-division requirement.

Students may earn a B.A. or a minor in political science, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

It is strongly recommended, but not required, that majors complete lower-division POL coursework. No more than 8 credits of POL 1xxx may count toward the B.A.

Take 0 - 8 credits(s) from the following:

- POL 1001 - American Democracy in a Changing World [SOCS] (4.0 cr)
- POL 1001H - Honors Course: American Democracy in a Changing World [SOCS] (4.0 cr)
- POL 1019 - Indigenous Peoples: A Global Perspective [GP] (3.0 cr)
- POL 1025 - Global Politics [SOCS, GP] (4.0 cr)
- POL 1026 - We and They: U.S. Foreign Policy (4.0 cr)
- POL 1054 - Politics of Countries Around the World [SOCS, GP] (4.0 cr)
- POL 1054H - Honors: Politics of Countries Around the World [SOCS, GP] (4.0 cr)

•POL 1201 - Political Ideas and Ideologies [HIS, CIV] (4.0 cr)
•POL 1234 - Citizen U: Building Tomorrow's Citizens Today (3.0 cr)
•POL 1903 - Freshman Seminar (3.0 cr)
•POL 1904 - Topics: Freshman seminar (3.0 cr)
•POL 1905 - Freshman Seminar (3.0 cr)
•POL 1908W - Topics: Freshman Seminar [WI] (3.0 cr)
•POL 1909W - Topics: Freshman Seminar [WI] (3.0 cr)

Upper-division Courses

Take at least one course from three of the four subfields: political theory, comparative government, international relations, and American government. Students who do not choose to complete an optional sub-plan should take remaining upper-division coursework from these course lists.

Take 3 or more course(s) including 3 or more sub-requirements(s) from the following:

•**Political Theory**
•Take 0 or more course(s) from the following:
•POL 3210 - Practicum (2.0 cr)
•POL 3225 - American Political Thought [CIV] (3.0 cr)
•POL 3235W - Democracy and Citizenship [CIV, WI] (3.0 cr)
•POL 3251 - Greeks, Romans, and Christians: Ancient and Medieval Political Thought (3.0 - 4.0 cr)
•POL 3252 - Renaissance, Reformation, and Revolution: Early Modern Political Thought [AH, CIV] (3.0 cr)
•POL 4210 - Topics in Political Theory (3.0 cr)
•POL 4253 - Modernity and Its Discontents: Late Modern Political Thought (3.0 - 4.0 cr)
•POL 4275 - Contemporary Political Thought (3.0 cr)

•**Comparative Government**
•Take 0 or more course(s) from the following:
•POL 3451W - Politics and Society in the New Europe [GP, WI] (3.0 cr)
•POL 3464 - Politics of Inequality (3.0 cr)
•POL 3465 - Theories of Political Economy (3.0 cr)
•POL 3475 - Islamist Politics (3.0 cr)
•POL 3477 - Political Development [SOCS, GP] (3.0 - 4.0 cr)
•POL 3479 - Latin American Politics [GP] (3.0 cr)
•POL 4403W - Comparative Constitutionalism [GP, WI] (3.0 cr)
•POL 4410 - Topics in Comparative Politics (3.0 cr)
•POL 4461W - European Government and Politics [GP, WI] (4.0 cr)
•POL 4463 - The Cuban Revolution Through the Words of Cuban Revolutionaries [GP] (3.0 cr)
•POL 4465 - Southeast Asian Politics [GP] (3.0 cr)
•POL 4473W - Chinese Politics [GP, WI] (3.0 cr)
•POL 4477 - Struggles and Issues in the Middle East (4.0 cr)
•POL 4478W - Contemporary Politics in Africa and the Colonial Legacy [GP, WI] (4.0 cr)
•POL 4481 - Governments and Markets (3.0 - 4.0 cr)
•POL 4485 - Human Rights and Democracy in the World [CIV] (3.0 cr)
•POL 4487 - The Struggle for Democratization and Citizenship (4.0 cr)
•POL 4489W - Citizens, Consumers, and Corporations [CIV, WI] (3.0 cr)
•POL 4492 - Law and (In)Justice in Latin America (3.0 cr)
•POL 4494W - US-Latin American Relations [WI] (3.0 cr)
•POL 4495 - Politics of Family, Sex, and Children (3.0 cr)

•**International Relations**
•Take 0 or more course(s) from the following:
•POL 3810 - Topics in International Relations and Foreign Policy (3.0 cr)
•POL 3833 - The United States and the Global Economy (3.0 cr)
•POL 3835 - International Relations [SOCS, GP] (3.0 cr)
•POL 3872W - Global Environmental Cooperation [WI] (4.0 cr)
•POL 3873W - Global Citizenship and International Ethics [CIV, WI] (3.0 cr)
•POL 4810 - Topics in International Politics and Foreign Policy (3.0 cr)
•POL 4867W - United States Foreign Policy Toward the Middle East [GP, WI] (4.0 cr)
•POL 4878W - Israeli-Palestinian Situation [GP, WI] (4.0 cr)
•POL 4883W - Global Governance [WI] (3.0 cr)
•POL 4885W - International Conflict and Security [GP, WI] (4.0 cr)
•POL 4887 - Thinking Strategically in International Politics (3.0 cr)
•POL 4889 - Governments and Global Trade and Money (3.0 - 4.0 cr)

•**American Government**
•Take 0 or more course(s) from the following:
•POL 3306 - Presidential Leadership and American Democracy (3.0 cr)
•POL 3308 - Congressional Politics and Institutions [SOCS] (3.0 cr)
•POL 3309 - Justice in America (3.0 cr)

- POL 3310 - Topics in American Politics (3.0 cr)
- POL 3310H - Topics in American Politics (3.0 cr)
- POL 3319 - Education and the American Dream [SOCS, DSJ] (3.0 cr)
- POL 3321 - Issues in American Public Policy (3.0 cr)
- POL 3323 - Political Tolerance in the United States (3.0 - 4.0 cr)
- POL 3325 - U.S. Campaigns and Elections (3.0 cr)
- POL 3701 - American Indian Tribal Governments and Politics (3.0 cr)
- POL 3739 - Politics of Race, Class, and Ethnicity (3.0 cr)
- POL 3752 - Chicano Politics (3.0 cr)
- POL 3766 - Political Psychology of Mass Behavior [SOCS] (3.0 cr)
- POL 3767 - Political Psychology of Elite Behavior [CIV] (3.0 cr)
- POL 3769 - Public Opinion and Voting Behavior [SOCS] (3.0 cr)
- POL 3785 - Persuasion and Political Propaganda (3.0 cr)
- POL 3785H - Persuasion and Political Propaganda (3.0 cr)
- POL 4310 - Topics in American Politics (3.0 cr)
- POL 4315W - State Governments: Laboratories of Democracy [WI] (4.0 cr)
- POL 4322 - Rethinking the Welfare State (3.0 - 4.0 cr)
- POL 4327 - The Politics of American Cities and Suburbs (3.0 cr)
- POL 4331 - Thinking Strategically in Domestic Politics (3.0 - 4.0 cr)
- POL 4501W - The Supreme Court and Constitutional Interpretation [CIV, WI] (3.0 cr)
- POL 4502W - The Supreme Court, Civil Liberties, and Civil Rights [CIV, WI] (3.0 cr)
- POL 4507 - Law, Sovereignty, and Treaty Rights (3.0 cr)
- POL 4525W - Federal Indian Policy [WI] (3.0 cr)
- POL 4561 - Comparative Legal Systems (3.0 cr)
- POL 4737W - American Political Parties [WI] (4.0 cr)
- POL 4766 - American Political Culture and Values [CIV] (3.0 cr)
- POL 4771 - Racial Attitudes and Intergroup Conflict (3.0 cr)
- POL 4773W - Interest Groups, Social Movements and Politics of Race, Class, and Gender [DSJ, WI] (3.0 cr)

Senior Project

The senior project is fulfilled by taking any POL 4xxx course as part of the 24-credit upper-division requirement. Honors students must take POL 4900V or POL 3110H to complete the senior thesis requirement.

Program Sub-plans

A sub-plan is not required for this program.

Business and Politics

Business and Politics

Take 4 or more course(s) from the following:

- POL 3085 - Quantitative Analysis in Political Science [MATH] (4.0 cr)
- POL 4315W - State Governments: Laboratories of Democracy [WI] (4.0 cr)
- POL 4327 - The Politics of American Cities and Suburbs (3.0 cr)
- POL 4331 - Thinking Strategically in Domestic Politics (3.0 - 4.0 cr)
- POL 4481 - Governments and Markets (3.0 - 4.0 cr)
- POL 3833 - The United States and the Global Economy (3.0 cr)
- POL 4889 - Governments and Global Trade and Money (3.0 - 4.0 cr)

Campaigns and Elections

Campaigns and Elections

Take 4 or more course(s) from the following:

- POL 3085 - Quantitative Analysis in Political Science [MATH] (4.0 cr)
- POL 3210 - Practicum (2.0 cr)
- POL 3225 - American Political Thought [CIV] (3.0 cr)
- POL 3766 - Political Psychology of Mass Behavior [SOCS] (3.0 cr)
- POL 3306 - Presidential Leadership and American Democracy (3.0 cr)
- POL 4331 - Thinking Strategically in Domestic Politics (3.0 - 4.0 cr)
- POL 4461W - European Government and Politics [GP, WI] (4.0 cr)
- POL 4737W - American Political Parties [WI] (4.0 cr)
- POL 3769 - Public Opinion and Voting Behavior [SOCS] (3.0 cr)

Citizenship and Civic Action

Citizenship and Civic Action

Take 4 or more course(s) from the following:

•POL 3210 - Practicum (2.0 cr)
•POL 3225 - American Political Thought [CIV] (3.0 cr)
•POL 3235W - Democracy and Citizenship [CIV, WI] (3.0 cr)
•POL 3251 - Greeks, Romans, and Christians: Ancient and Medieval Political Thought (3.0 - 4.0 cr)
•POL 3252 - Renaissance, Reformation, and Revolution: Early Modern Political Thought [AH, CIV] (3.0 cr)
•POL 3739 - Politics of Race, Class, and Ethnicity (3.0 cr)
•POL 3873W - Global Citizenship and International Ethics [CIV, WI] (3.0 cr)
•POL 4210 - Topics in Political Theory (3.0 cr)
•POL 4253 - Modernity and Its Discontents: Late Modern Political Thought (3.0 - 4.0 cr)
•POL 4275 - Contemporary Political Thought (3.0 cr)
•POL 4322 - Rethinking the Welfare State (3.0 - 4.0 cr)
•POL 4485 - Human Rights and Democracy in the World [CIV] (3.0 cr)
•POL 4487 - The Struggle for Democratization and Citizenship (4.0 cr)
•POL 4502W - The Supreme Court, Civil Liberties, and Civil Rights [CIV, WI] (3.0 cr)
•POL 4766 - American Political Culture and Values [CIV] (3.0 cr)

Democratization and Development

Democratization and Development

Take 4 or more course(s) from the following:
•POL 3210 - Practicum (2.0 cr)
•POL 3235W - Democracy and Citizenship [CIV, WI] (3.0 cr)
•POL 3477 - Political Development [SOCS, GP] (3.0 - 4.0 cr)
•POL 3739 - Politics of Race, Class, and Ethnicity (3.0 cr)
•POL 4210 - Topics in Political Theory (3.0 cr)
•POL 4253 - Modernity and Its Discontents: Late Modern Political Thought (3.0 - 4.0 cr)
•POL 4275 - Contemporary Political Thought (3.0 cr)
•POL 4322 - Rethinking the Welfare State (3.0 - 4.0 cr)
•POL 4477 - Struggles and Issues in the Middle East (4.0 cr)
•POL 4478W - Contemporary Politics in Africa and the Colonial Legacy [GP, WI] (4.0 cr)
•POL 3479 - Latin American Politics [GP] (3.0 cr)
•POL 4487 - The Struggle for Democratization and Citizenship (4.0 cr)
•POL 4561 - Comparative Legal Systems (3.0 cr)
•POL 4766 - American Political Culture and Values [CIV] (3.0 cr)
•POL 4885W - International Conflict and Security [GP, WI] (4.0 cr)
•POL 4889 - Governments and Global Trade and Money (3.0 - 4.0 cr)
•POL 5253 - Modernity and its Discontents: Late Modern Political Thought (4.0 cr)

Global Politics

Global Politics

Take 4 or more course(s) from the following:
•POL 3235W - Democracy and Citizenship [CIV, WI] (3.0 cr)
•POL 3451W - Politics and Society in the New Europe [GP, WI] (3.0 cr)
•POL 3477 - Political Development [SOCS, GP] (3.0 - 4.0 cr)
•POL 3835 - International Relations [SOCS, GP] (3.0 cr)
•POL 3872W - Global Environmental Cooperation [WI] (4.0 cr)
•POL 3873W - Global Citizenship and International Ethics [CIV, WI] (3.0 cr)
•POL 4461W - European Government and Politics [GP, WI] (4.0 cr)
•POL 4473W - Chinese Politics [GP, WI] (3.0 cr)
•POL 4477 - Struggles and Issues in the Middle East (4.0 cr)
•POL 4478W - Contemporary Politics in Africa and the Colonial Legacy [GP, WI] (4.0 cr)
•POL 3479 - Latin American Politics [GP] (3.0 cr)
•POL 4485 - Human Rights and Democracy in the World [CIV] (3.0 cr)
•POL 3833 - The United States and the Global Economy (3.0 cr)
•POL 4883W - Global Governance [WI] (3.0 cr)
•POL 4885W - International Conflict and Security [GP, WI] (4.0 cr)
•POL 4887 - Thinking Strategically in International Politics (3.0 cr)
•POL 4889 - Governments and Global Trade and Money (3.0 - 4.0 cr)

Law and Politics

Law and Politics

Take 4 or more course(s) from the following:
•POL 3225 - American Political Thought [CIV] (3.0 cr)
•POL 3252 - Renaissance, Reformation, and Revolution: Early Modern Political Thought [AH, CIV] (3.0 cr)
•POL 3872W - Global Environmental Cooperation [WI] (4.0 cr)
•POL 4253 - Modernity and Its Discontents: Late Modern Political Thought (3.0 - 4.0 cr)

•POL 4275 - Contemporary Political Thought (3.0 cr)
•POL 4501W - The Supreme Court and Constitutional Interpretation [CIV, WI] (3.0 cr)
•POL 4502W - The Supreme Court, Civil Liberties, and Civil Rights [CIV, WI] (3.0 cr)
•POL 4561 - Comparative Legal Systems (3.0 cr)
•POL 4883W - Global Governance [WI] (3.0 cr)
•POL 5252 - Renaissance, Reformation, and Revolution: Early Modern Political Thought (3.0 cr)
•POL 5253 - Modernity and its Discontents: Late Modern Political Thought (4.0 cr)

Political Psychology, Beliefs, and Behavior

Political Psychology, Beliefs, and Behavior

Take 4 or more course(s) from the following:
•POL 3085 - Quantitative Analysis in Political Science [MATH] (4.0 cr)
•POL 3739 - Politics of Race, Class, and Ethnicity (3.0 cr)
•POL 3766 - Political Psychology of Mass Behavior [SOCS] (3.0 cr)
•POL 4253 - Modernity and Its Discontents: Late Modern Political Thought (3.0 - 4.0 cr)
•POL 4275 - Contemporary Political Thought (3.0 cr)
•POL 3306 - Presidential Leadership and American Democracy (3.0 cr)
•POL 4331 - Thinking Strategically in Domestic Politics (3.0 - 4.0 cr)
•POL 4485 - Human Rights and Democracy in the World [CIV] (3.0 cr)
•POL 4766 - American Political Culture and Values [CIV] (3.0 cr)
•POL 4887 - Thinking Strategically in International Politics (3.0 cr)
•POL 5253 - Modernity and its Discontents: Late Modern Political Thought (4.0 cr)

Public Affairs

Public Affairs

Take 4 or more course(s) from the following:
•POL 3085 - Quantitative Analysis in Political Science [MATH] (4.0 cr)
•POL 3235W - Democracy and Citizenship [CIV, WI] (3.0 cr)
•POL 3321 - Issues in American Public Policy (3.0 cr)
•POL 3306 - Presidential Leadership and American Democracy (3.0 cr)
•POL 4315W - State Governments: Laboratories of Democracy [WI] (4.0 cr)
•POL 4322 - Rethinking the Welfare State (3.0 - 4.0 cr)
•POL 4327 - The Politics of American Cities and Suburbs (3.0 cr)
•POL 4481 - Governments and Markets (3.0 - 4.0 cr)
•POL 4501W - The Supreme Court and Constitutional Interpretation [CIV, WI] (3.0 cr)
•POL 3833 - The United States and the Global Economy (3.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Psychology B.A.

Psychology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 36
- Degree: Bachelor of Arts

Psychology examines human behavior through environmental, genetic, physiological, and social determinants and correlates. The department strives to train students with a strong general background in psychology and an ability to think clearly and critically in a wide variety of settings. Students must fulfill distribution requirements in a variety of psychological topics.

Faculty and students work with related University units, including the Institute of Child Development, the Department of Computer Science and Engineering, the Carlson School of Management, the Departments of Psychiatry and Educational Psychology, the Department of Neuroscience, and affiliated research units within the department, such as the Center for Cognitive Sciences, the Center for Interest Measurement Research, and the Minnesota Center for Twin and Family Research. While a B.A. in psychology has proved to be a valuable and useful background for a wide variety of careers, a professional career as a psychologist requires further training.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Note: CPSY, EPSY, and CAPY courses do not count as upper-division credits outside of psychology. Transfer students must complete a minimum of 16 upper-division credits in the Department of Psychology at the University of Minnesota - Twin Cities campus.

Students may earn no more than one undergraduate degree in psychology: a B.A. or a B.S. or a minor. Students may combine the psychology B.A. with the child psychology minor, but not with the child psychology B.A. or B.S.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Preparatory Courses

Take three courses for a total of 12 credits.

PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSY 1001H - Honors Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
PSY 3801 - Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or PSY 3801H - Honors Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
PSY 3001W - Introduction to Research Methods [WI] (4.0 cr)
or PSY 3001V - Honors Introduction to Research Methods [WI] (4.0 cr)

Major Courses

Take five courses for a total of 15 credits.

Cognitive and Brain Sciences

Take 2 or more course(s) from the following:
•PSY 3011 - Introduction to Learning and Behavior (3.0 cr)
•PSY 3031 - Introduction to Sensation and Perception (3.0 cr)
•PSY 3051 - Introduction to Cognitive Psychology (3.0 cr)
•PSY 3061 - Introduction to Biological Psychology (3.0 cr)
•PSY 4011 - Applied Behavior Analysis (3.0 cr)
•PSY 4012 - Behavior Analysis and Autism (4.0 cr)
•PSY 4032 - Psychology of Music (3.0 cr)
•PSY 4036 - Perceptual Issues in Visual Impairment (3.0 cr)
•PSY 5012 - Learning and Cognition in Animals (4.0 cr)
•PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
•PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
•PSY 5018H - Mathematical Models of Human Behavior (3.0 cr)
•PSY 5031W - Perception [WI] (3.0 cr)
•PSY 5036W - Computational Vision [WI] (3.0 cr)
•PSY 5037 - Psychology of Hearing (3.0 cr)
•PSY 5038W - Introduction to Neural Networks [WI] (3.0 cr)
•PSY 5054 - Psychology of Language (3.0 cr)
•PSY 5062 - Cognitive Neuropsychology (3.0 cr)
•PSY 5063 - Introduction to Functional MRI (3.0 cr)
•PSY 5064 - Brain and Emotion (3.0 cr)
•PSY 5065 - Functional Imaging: Hands-on Training (3.0 cr)

Clinical, Personality, and Social Psychology

Take 2 or more course(s) from the following:
•PSY 3201 - Introduction to Social Psychology (3.0 cr)
•PSY 3206 - Introduction to Health Psychology (3.0 cr)
•PSY 3301 - Introduction to Cultural Psychology (3.0 cr)
•PSY 3617 - Introduction to Clinical Psychology (3.0 cr)
•PSY 3633 - Happiness: Integrating Research Across Psychological Sciences (3.0 cr)
•PSY 5202 - Attitudes and Social Behavior (3.0 cr)
•PSY 5204 - Psychology of Interpersonal Relationships (3.0 cr)
•PSY 5205 - Applied Social Psychology (3.0 cr)
•PSY 5206 - Social Psychology and Health Behavior (3.0 cr)
•PSY 5207 - Personality and Social Behavior (3.0 cr)
•CPSY 3301 - Introductory Child Psychology for Social Sciences (4.0 cr)
•CPSY 4303 - Adolescent Psychology (3.0 cr)
•PSY 3604 - Introduction to Abnormal Psychology (3.0 cr)
•PSY 3101 - Introduction to Personality (3.0 cr)
or PSY 5101 - Personality Psychology (3.0 cr)

Individual Differences, Quantitative, and Applied Psychology

Take 1 or more course(s) from the following:
•PSY 3121 - History and Systems of Psychology (3.0 cr)
•PSY 3511 - Introduction to Counseling Psychology (3.0 cr)
•PSY 3711 - Introduction to Industrial and Organizational Psychology (3.0 cr)
•PSY 4501 - Psychology of Women and Gender (3.0 cr)
•PSY 5136 - Human Abilities (3.0 cr)
•PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
•PSY 5138 - Psychology of Aging (3.0 cr)
•PSY 5501 - Vocational and Occupational Health Psychology (3.0 cr)
•PSY 5707 - Personnel Psychology (4.0 cr)
•PSY 5708 - Organizational Psychology (3.0 cr)
•PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
•PSY 5865 - Advanced Psychological and Educational Measurement (4.0 cr)
•PSY 3135 - Introduction to Individual Differences (3.0 cr)
or PSY 5135 - Psychology of Individual Differences (3.0 cr)

Electives

Take as many credits as needed to reach the 36-credit requirement. Students may count up to 6 combined credits of PSY 3960/4960/5960, 3993, 4993/5993, 3996 and 4996H; OR up to 9 combined credits of PSY 4993/5993 toward the electives sub-requirement.
PSY 3xxx
or PSY 4xxx
or PSY 5xxx

Take at most 6 credits(s) from the following:
•PSY 3960 - Undergraduate Seminar in Psychology (1.0 - 5.0 cr)

•PSY 3993 - Directed Study (1.0 - 6.0 cr)
•PSY 3996 - Undergraduate Fieldwork and Internship in Psychology (1.0 - 6.0 cr)
•PSY 4960 - Seminar in Psychology (1.0 - 4.0 cr)
•PSY 4993 - Directed Research: Special Areas of Psychology and Related Sciences (1.0 - 6.0 cr)
•PSY 4996H - Honors Internship/Externship (1.0 - 6.0 cr)
•PSY 5960 - Topics in Psychology (1.0 - 4.0 cr)
•PSY 5993 - Research Laboratory in Psychology (3.0 cr)
or Take at most 9 credits(s) from the following:
•PSY 4993 - Directed Research: Special Areas of Psychology and Related Sciences (1.0 - 6.0 cr)
•PSY 5993 - Research Laboratory in Psychology (3.0 cr)

Senior Project

Students completing a double major in another CLA department who choose to complete that department's major project must complete 36 total credits in psychology, using additional electives to replace credits that would have been earned through psychology's major project. Honors students should take PSY 4902V for a minimum of 3, but no more than 6, credits.
PSY 3902W - Major Project in Psychology [WI] (3.0 cr)
or PSY 4902V - Honors Project [WI] (1.0 - 6.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

CLA Honors

Honors students in the B.A. program take PSY 4994V as one of their Major Courses requirements, and PSY 4902V in place of PSY 3902W for the senior project (see 'Senior Project' above). Honors students are encouraged to choose honors versions of core courses, including PSY 1001H, 3801H, and 3001V.
PSY 4994V - Honors Research Practicum [WI] (4.0 cr)

Twin Cities Campus

Psychology B.S.

Psychology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 54 to 61
- Degree: Bachelor of Science

Psychology examines human behavior through environmental, genetic, physiological, and social determinants and correlates. The B.S. in psychology offers students rigorous scientific training in biological and quantitative psychology, complimented by a broad education in such related fields as neuroscience, cognitive science, computer science, biology, chemistry, and mathematics. This degree is intended to prepare students for graduate work in psychology, as well as in related fields such as cognitive science, neuroscience, and medicine.

The B.S. degree in psychology emphasizes coursework in biological and quantitative/cognitive sciences. The biological courses are appropriate for students interested primarily in such specializations as the biological basis of psychopathology, the brain-behavior relation, evolutionary psychology, and behavior genetics. The quantitative/cognitive science courses are appropriate for students interested primarily in statistics and methods used in psychological research, in mathematical models of perception and cognition, and in psychological measurement. Students interested in the biological area are encouraged to choose heavily from outside foundation courses in the life sciences (e.g., biochemistry, biology, genetics and cell biology, evolution and behavior), whereas students focusing upon quantitative/cognitive science courses are encouraged to select more outside foundation courses in mathematics and the physical sciences (e.g., computer science, mathematics, physics, statistics).

A psychology B.S. is a valuable and useful background for a variety of careers and graduate and professional academic programs. A professional career as a psychologist requires further training. Students completing the baccalaureate degree in psychology may not receive a second baccalaureate degree in child psychology.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Transfer students must complete a minimum of 16 upper-division credits and 9 credits within the Outside Foundation Courses requirement in the Department of Psychology at the University of Minnesota - Twin Cities campus. Students may earn no more than one undergraduate degree in psychology: a B.A. or a B.S. or a minor. Students may combine the psychology B.S. with the child psychology minor, but not with the child psychology B.A. or B.S.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Outside Foundation Courses

Take 18 or more credits(s) including 3 or more sub-requirements(s) from the following:

- **Philosophy**
  - Note: All of these courses except PHIL 1001 have prerequisites.
  - Take 0 - 11 credits(s) from the following:
  - PHIL 1001 - Introduction to Logic [MATH] (4.0 cr)
  - PHIL 3601W - Scientific Thought [WI] (4.0 cr)

•PHIL 3607 - Philosophy of Psychology (4.0 cr)
•PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
•PHIL 5201 - Symbolic Logic I (4.0 cr)
•PHIL 5202 - Symbolic Logic II (4.0 cr)
•PHIL 1005 - Scientific Reasoning (4.0 cr)
or PHIL 1005H - Scientific Reasoning (4.0 cr)

•Computer Science/Math
•Note: All of these courses except CSCI 1103 have prerequisites.
•Take 0 - 11 credits(s) from the following:
•CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
•CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
•CSCI 1901 - Structure of Computer Programming I (4.0 cr)
•CSCI 1902 - Structure of Computer Programming II (4.0 cr)
•CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)
•MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
•MATH 1272 - Calculus II (4.0 cr)
or MATH 1572H - Honors Calculus II (4.0 cr)

•Physical Science
•Note: All of these courses except CHEM 1015 have prerequisites.
•Take 0 - 11 credits(s) from the following:
•CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
•CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
•CHEM 2301 - Organic Chemistry I (3.0 cr)
•CHEM 2302 - Organic Chemistry II (3.0 cr)
•CHEM 2311 - Organic Lab (4.0 cr)
•CHEM 2312H - Honors Organic Lab (5.0 cr)
•PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
•PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
or CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)
•PHYS 1201W - Introductory Physics for Biology and Pre-medicine I [PHYS, WI] (5.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
•PHYS 1202W - Introductory Physics for Biology and Pre-medicine II [PHYS, WI] (5.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)

•Biological Science
•Note: All of these courses except ANTH 1001, ANTH 3002, and BIOL 1001 have prerequisites.
•Take 0 - 11 credits(s) from the following:
•ANTH 3002 - Sex, Evolution, and Behavior: Examining Human Evolutionary Biology (4.0 cr)
•BIOC 3021 - Biochemistry (3.0 cr)
•BIOL 1101W - Heredity and Human Society [CIV, WI] (3.0 cr)
•BIOL 2002 - Foundations of Biology for Biological Sciences Majors, Part I [BIOL] (6.0 cr)
•BIOL 3409 - Evolution (3.0 cr)
•BIOL 3411 - Introduction to Animal Behavior (3.0 cr)
•BIOL 4003 - Genetics (3.0 cr)
•BIOL 4004 - Cell Biology (3.0 cr)
•EEB 4329 - Primate Ecology and Social Behavior (3.0 cr)
•GCD 3022 - Genetics (3.0 cr)
•ANTH 1001 - Human Evolution [BIOL] (4.0 cr)
or ANTH 1001H - Honors: Human Evolution [BIOL] (4.0 cr)
•BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
or BIOL 1001H - Introductory Biology I: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
•BIOL 1009 - General Biology [BIOL] (4.0 cr)
or BIOL 1009H - Honors: General Biology [BIOL] (4.0 cr)

Major Courses
Take 36 or more credits(s) from the following:

•**Preparatory Courses**
PSY 1001 - Introduction to Psychology [SOCS] (4.0 cr)
or PSY 1001H - Honors Introduction to Psychology [SOCS] (4.0 cr)
or PSTL 1281 - Principles of Psychology [SOCS] (4.0 cr)
PSY 3801 - Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
or PSY 3801H - Honors Introduction to Psychological Measurement and Data Analysis [MATH] (4.0 cr)
PSY 3001W - Introduction to Research Methods [WI] (4.0 cr)
or PSY 3001V - Honors Introduction to Research Methods [WI] (4.0 cr)
•**Cognitive and Brain Sciences**
•At least one course must be 4xxx or above.
•Take 2 or more course(s) totaling 6 or more credits(s) from the following:
•PSY 3011 - Introduction to Learning and Behavior (3.0 cr)
•PSY 3031 - Introduction to Sensation and Perception (3.0 cr)
•PSY 3051 - Introduction to Cognitive Psychology (3.0 cr)
•PSY 3061 - Introduction to Biological Psychology (3.0 cr)
•PSY 4011 - Applied Behavior Analysis (3.0 cr)
•PSY 4012 - Behavior Analysis and Autism (4.0 cr)
•PSY 4032 - Psychology of Music (3.0 cr)
•PSY 4036 - Perceptual Issues in Visual Impairment (3.0 cr)
•PSY 5012 - Learning and Cognition in Animals (4.0 cr)
•PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
•PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
•PSY 5018H - Mathematical Models of Human Behavior (3.0 cr)
•PSY 5031W - Perception [WI] (3.0 cr)
•PSY 5036W - Computational Vision [WI] (3.0 cr)
•PSY 5037 - Psychology of Hearing (3.0 cr)
•PSY 5038W - Introduction to Neural Networks [WI] (3.0 cr)
•PSY 5054 - Psychology of Language (3.0 cr)
•PSY 5062 - Cognitive Neuropsychology (3.0 cr)
•PSY 5063 - Introduction to Functional MRI (3.0 cr)
•PSY 5064 - Brain and Emotion (3.0 cr)
•PSY 5065 - Functional Imaging: Hands-on Training (3.0 cr)
•**Clinical, Personality, and Social**
•Take 1 or more course(s) totaling 3 or more credits(s) from the following:
•CPSY 3301 - Introductory Child Psychology for Social Sciences (4.0 cr)
•CPSY 4303 - Adolescent Psychology (3.0 cr)
•PSY 3201 - Introduction to Social Psychology (3.0 cr)
•PSY 3206 - Introduction to Health Psychology (3.0 cr)
•PSY 3301 - Introduction to Cultural Psychology (3.0 cr)
•PSY 3604 - Introduction to Abnormal Psychology (3.0 cr)
•PSY 3617 - Introduction to Clinical Psychology (3.0 cr)
•PSY 3633 - Happiness: Integrating Research Across Psychological Sciences (3.0 cr)
•PSY 5202 - Attitudes and Social Behavior (3.0 cr)
•PSY 5204 - Psychology of Interpersonal Relationships (3.0 cr)
•PSY 5205 - Applied Social Psychology (3.0 cr)
•PSY 5206 - Social Psychology and Health Behavior (3.0 cr)
•PSY 5207 - Personality and Social Behavior (3.0 cr)
•PSY 3101 - Introduction to Personality (3.0 cr)
or PSY 5101 - Personality Psychology (3.0 cr)
•**Individual Differences, Quantitative, and Applied**
•At least one course must be 4xxx or above.
•Take 2 or more course(s) totaling 6 or more credits(s) from the following:
•PSY 3121 - History and Systems of Psychology (3.0 cr)
•PSY 3511 - Introduction to Counseling Psychology (3.0 cr)
•PSY 3711 - Introduction to Industrial and Organizational Psychology (3.0 cr)
•PSY 4501 - Psychology of Women and Gender (3.0 cr)
•PSY 5136 - Human Abilities (3.0 cr)
•PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
•PSY 5138 - Psychology of Aging (3.0 cr)
•PSY 5501 - Vocational and Occupational Health Psychology (3.0 cr)
•PSY 5707 - Personnel Psychology (4.0 cr)
•PSY 5708 - Organizational Psychology (3.0 cr)
•PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
•PSY 5865 - Advanced Psychological and Educational Measurement (4.0 cr)
•PSY 3135 - Introduction to Individual Differences (3.0 cr)

or PSY 5135 - Psychology of Individual Differences (3.0 cr)

•**Electives**

•Take as many elective credits as needed to reach the 36-credit minimum for the major courses requirement.

•Take at most 8 credits(s) from the following:

•PSY 3xxx

•PSY 4xxx

•PSY 5xxx

•Take at most 3 credits(s) from the following:

•PSY 3960 - Undergraduate Seminar in Psychology (1.0 - 5.0 cr)

•PSY 3993 - Directed Study (1.0 - 6.0 cr)

•PSY 3996 - Undergraduate Fieldwork and Internship in Psychology (1.0 - 6.0 cr)

•PSY 4960 - Seminar in Psychology (1.0 - 4.0 cr)

•PSY 4996H - Honors Internship/Externship (1.0 - 6.0 cr)

•PSY 5960 - Topics in Psychology (1.0 - 4.0 cr)

•Students may count up to 6 credits of PSY 4993/5993 toward the electives sub-requirement. An additional 3 credits of PSY 5993 is required for the senior project.

•PSY 4993 - Directed Research: Special Areas of Psychology and Related Sciences (1.0 - 6.0 cr)

or PSY 5993 - Research Laboratory in Psychology (3.0 cr)

•**Senior Project**

•Take PSY 3902W concurrent with PSY 4993 or PSY 5993 for a total of 6 credits. Honors students fulfill the senior project by enrolling in PSY 4902V for a minimum of 3, but no more than 6, credits. (Note: neither PSY 4993 nor PSY 5993 is required for the honors senior project.)

PSY 3902W - Major Project in Psychology [WI] (3.0 cr)

with PSY 4993 - Directed Research: Special Areas of Psychology and Related Sciences (1.0 - 6.0 cr)

or PSY 5993 - Research Laboratory in Psychology (3.0 cr)

or PSY 4902V - Honors Project [WI] (1.0 - 6.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

CLA Honors

Honors students in the B.S. program take PSY 4994V as one of their major courses requirements, and PSY 4902V in place of PSY 3902W for the senior project (see 'Senior Project' above). Honors students are encouraged to choose honors versions of core courses, including PSY 1001H, 3801H, and 3001V.

PSY 4994V - Honors Research Practicum [WI] (4.0 cr)

Twin Cities Campus

Religious Studies B.A.

Classical & Near Eastern Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 31 to 34
- Degree: Bachelor of Arts

Students in religious studies are trained in the critical study of religious thought, practice, institutions, and communities, throughout the world and across time periods. The subject of religion is by its very nature interdisciplinary, attracting interest from many perspectives, including textual and literary studies, history, sociology, anthropology, the arts, and philosophy.

Students in the religious studies program select one of two tracks. The religion, culture, and society track is designed for students who seek to study religions traditions broadly or comparatively. The texts and traditions track is for students who seek to study a single tradition deeply, reading its foundational texts in their original language. Both tracks examine religion as a social and cultural force affecting fundamental issues of our world. All majors take courses in at least two religious traditions and develop an interdisciplinary concentration area consisting of four courses, from a variety of departments, focused on a theme, tradition, time period, location, practice, or set of questions. The concentration area must be approved by the major adviser.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Track 1: Any language. Track 2: Any approved by major adviser..

Preparatory Courses

This requirement ensures that students are introduced to the academic study of religion and understand how it is different from what they may have experienced in their own families or religious institutions. Students should enter 3xxx courses with an understanding of the academic expectations of the field.

The list of courses approved for this requirement will be updated regularly to accommodate new offerings. Courses not on the list may be accepted by petition to the major adviser.

RELS 1xxx
or ALL 1275 *{Inactive}*(3.0 cr)
or AMST 1011 - Religions and American Identity in the United States from World War II to the Present [CIV] (3.0 cr)
or CNES 1001 - World of the Bible: Religions, Empires, and Discourses of Power [AH] (3.0 cr)
or CNES 1082 - Jesus in History (3.0 cr)
or CNES 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)
or JWST 1034 - Introduction to Jewish History and Civilization [HIS] (3.0 cr)
or JWST 1083 *{Inactive}*(3.0 cr)
or JWST 1201 - The Bible: Context and Interpretation [LITR] (3.0 cr)

Theory and Methods

RELS 3001W - Theory and Method in Religion: Critical Approaches to the Study of Religion [WI] (3.0 cr)

Senior Project Seminar

Minimum 4 credits. Offered every spring. Advanced juniors may be admitted with adviser's permission. Students in both Religious Studies Tracks will be in the same seminar with the expectation that their respective strengths will complement each other and enrich the senior project experience.
CNES 3951W - Major Project [WI] (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Track 1: Religion, Culture, and Society

This track is designed to meet the needs of students who wish to study religion broadly and pursue a highly contextualized investigation of religion as a social and cultural force. It serves students who are drawn to the methodologies of the humanities, social sciences, and the arts. It serves students who are motivated by questions of expression, psychology, theology or religious thought, as well as public and social policy and the political contexts and ramifications of religion. It prepares students for many careers serving diverse communities in public arenas, as well as for graduate study in the arts or social sciences, or in theological or seminary programs.

Take a minimum of 24 credits at 3xxx or above. Final clearance by the major adviser is required.

Major Courses

Minimum 12 credits. Courses must be approved by major adviser.
Religious traditions 1 (min 3 cr): Take a course in a religious tradition (e.g., Buddhism, Christianity, Hinduism, Islam, Judaism, a Native American tradition, Zoroastrianism). May be taken through any appropriate department.
Religious traditions 2 (min 3 cr): Take a course in a different religious tradition (e.g., Buddhism, Christianity, Hinduism, Islam, Judaism, a Native American tradition, Zoroastrianism). May be taken through any appropriate department.
Contexts of religious life 1 (min 3 cr): Take a course in sociocultural contexts of religion (e.g., in history, sociology, or anthropology of religion). May be taken through any appropriate department.
Contexts of religious life 2 (min 3 cr): Take a course in sociocultural contexts of religion (e.g., in history, sociology, or anthropology of religion). May be taken through any appropriate department.

Concentration Area

Minimum 12 credits. Take four elective courses in a concentration area linked together geographically, chronologically, thematically, methodologically, or by tradition. Courses must be approved by major adviser.

If the concentration area is on a particular tradition, the courses selected for the religious traditions requirement above must be different.

Courses used for the religious traditions or contexts of religious life requirements cannot be used to fulfill this requirement.
Elective 3xxx-5xxx
Elective 3xxx-5xxx
Elective 3xxx-5xxx
Elective 3xxx-5xxx

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Track 2: Texts and Traditions

This track is designed for students interested in gaining in-depth knowledge of a particular religious tradition by studying the untranslated foundational texts of the chosen tradition.

This track prepares students for many careers serving diverse communities in public arenas, as well as for graduate study in a variety of fields or seminary programs. It is particularly recommended for students interested in topics such as the study of the Bible or Qur'an; the history of Judaism, Islam, or Christianity before the modern period; or the study of the traditions and texts of the religions of South or East Asia, whether in their countries of origin or in diaspora.

Minimum 21 credits at 3xxx or above.

This track requires that students gain proficiency in a language directly tied to their specified religion. Students must complete preparatory work through the fourth semester (or equivalent) of a language appropriate to the specific religious tradition and its sources. Sample pairings include, but are not limited to, the following:

American Indian religions: Ojibwe or Dakota

Buddhism: Chinese or Japanese

Christianity: Greek or Latin (for scriptural or medieval concentration), German or Spanish (for relevant geographical/cultural themes)

Hinduism:Sanskrit or Hindi

Islam: Arabic, Turkish, or Persian

Judaism: Hebrew (for scriptural or historical area of concentration), German or Yiddish (e.g., for Jewish literature or 20th-century)

Language selection must be approved by the major adviser.

Interdisciplinary concentration areas and courses must be approved by the major adviser.

Track II Language Proficiency Requirement

Note: This should be fulfilled in addition to the standard College of Liberal Arts language requirement.
Minimum 3 credits. Students must gain proficiency (complete work through 4th semester or equiv) in a language directly tied to their specified religion. See Degree Requirements for specifications.

Major Courses

Minimum 6 credits. Courses must be approved by major adviser.
Religious traditions 1 (min 3 cr): Take a course in a religious tradition (e.g., Buddhism, Christianity, Hinduism, Islam, Judaism, a Native American tradition, Zoroastrianism). May be taken through any appropriate department.
Religious traditions 2 (min 3 cr): Take a course in a different religious tradition (e.g., Buddhism, Christianity, Hinduism, Islam, Judaism, a Native American tradition, Zoroastrianism). May be taken through any appropriate department.

Concentration Area

Minimum 12 credits. Students must take four elective courses in a concentration area linked to their selected tradition and its associated language, and linked together geographically, chronologically, thematically, methodologically, or by tradition. Courses must be approved by major adviser.

Courses used for the religious traditions requirement cannot be used to fulfill this requirement.
Elective 3xxx-5xxx
Elective 3xxx-5xxx
Elective 3xxx-5xxx
Elective 3xxx-5xxx

Twin Cities Campus

Russian B.A.

Slavic Languages/Literatures

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 32
- Degree: Bachelor of Arts

Russian is the native language of some 150 million citizens of the Russian Federal Republic. It is one of the five official languages of the UN, and ranks with English, Chinese, Hindi, Urdu, and Spanish as a major world language. Russian remains the unofficial lingua franca of the former Soviet republics, an indispensable communications tool across all of the Caucasus and Central Asia. Russian is a major language for scientific publication, and it is an increasingly important language for business and trade as Russian institutions, both public and private, integrate with their European and American counterparts.

Besides a thorough grounding in the Russian language, students in the Russian major become conversant with the enormous wealth of the Russian cultural heritage in literature, visual art, theater, and music. In particular, Russia has produced one of the world's most vibrant and exciting literary traditions--including the works of poets like Pushkin, Lermontov, Blok, and Akhmatova, and writers like Gogol', Turgenev, Dostoevsky, Tolstoy, and Chekhov. Despite the upheavals caused by the fall of communism, Russian literary culture remains vibrant today, and only a fraction of this fascinating contemporary work is available in translation.

Further information on the value of a Russian major can be found at http://www.russnet.org/why/index.html.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Complete the preparatory Russian sequence (RUSS 1101, 1102, 3001, 3002) with a minimum grade of C- or equivalent. Note: these credits do not factor into the overall length in credits of the major.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Russian.

Students may earn a B.A. or a minor in Russian, but not both.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Advanced Language Courses

RUSS 3101 - Advanced Russian I (4.0 cr)
RUSS 3102 - Advanced Russian II (4.0 cr)

Major Courses

RUSS 3421 - Literature: Middle Ages to Dostoevsky in Translation [LITR, GP] (3.0 cr)
RUSS 3422 - Literature: Tolstoy to the Present in Translation [LITR] (3.0 cr)
RUSS 3512 - Russian Art and Culture [AH, GP] (3.0 cr)

Electives

Take a minimum of 12 credits. Preparatory courses such as RUSS 3001 & RUSS 3002 do NOT count toward the electives requirement.
Take 4 or more course(s) from the following:
•RUSS 3xxx
•RUSS 4xxx
•RUSS 5xxx

Major Project
RUSS 3311 - Russian Major Project (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Scandinavian Languages and Finnish B.A.

German, Scandinavian, & Dutch

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 30 to 31
- Degree: Bachelor of Arts

The program teaches and conducts research in the languages and literature of the Scandinavian countries--Denmark, Finland, Norway, and Sweden--in the context of relevant cultural-historical background. Majors and minors are offered with concentrations in Danish, Finnish, Norwegian, and Swedish.

The department recommends study abroad in one of the countries for at least six months to acquire cultural familiarity and language fluency. Students may apply appropriate coursework to the major or minors. The Learning Abroad Center has information on study abroad at www.UMabroad.umn.edu.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Danish, Swedish, Finnish, or Norwegian.

The major consists of a minimum of 31 credits in 3xxx, 4xxx (beyond 4004), and 5xxx courses, with concentration in Danish, Finnish, Norwegian, or Swedish. All courses in the major must be taken A-F and completed with a grade of C- or better. At least two courses must be taken in the Scandinavian program at the University of Minnesota. The major program must be approved by the director of undergraduate studies.

Major Core Courses

Required for Danish, Norwegian, or Swedish concentrations
SCAN 3011W - Readings in Scandinavian Languages [WI] (4.0 cr)
or Required for Finnish concentration
FIN 3011 - Advanced Finnish (3.0 cr)
FIN 3012 - Advanced Finnish (3.0 cr)

Required for all.
Take 3 or more course(s) from the following:

- SCAN 3501W - Scandinavian Culture Past and Present [GP, WI] (3.0 cr)
- SCAN 3502 - Scandinavian Myths [LITR, GP] (3.0 cr)
- SCAN 3503 - Scandinavian Folklore [LITR, GP] (3.0 cr)
- SCAN 3504 - The Immigrant Experience [HIS] (3.0 cr)
- SCAN 3601 - Great Literary Works of Scandinavia [LITR] (3.0 cr)

Major Project

The major project is a substantial paper of approximately 20 typed pages. The paper is prepared in the Major Project Seminar (GSD 3451W or 3451V) with the guidance and supervision of a faculty member.

Please note: This seminar is offered fall semester only.

GSD 3451W - Major Project Seminar [WI] (3.0 cr)
or GSD 3451V - Honors Major Project Seminar [WI] (3.0 cr)

Language Concentrations

Danish, Norwegian, or Swedish Concentrations
Substantial work in the student's language of concentration must be done in conjunction with two of the Scandinavian literature or culture courses (SCAN designator), as directed by the instructor or by the director of undergraduate studies. One elective may be taken in an appropriate social science course in consultation with the director of undergraduate studies.
Take 15 or more credits(s) from the following:
•SCAN 3xxx
•SCAN 4xxx
•SCAN 5xxx

-OR-

Finnish Concentration
Substantial work in the student's language of concentration must be done in conjunction with two of the Scandinavian literature or culture courses (SCAN designator), as directed by the instructor or by the director of undergraduate studies. One elective may be taken in an appropriate social science course in consultation with the director of undergraduate studies.
Take 12 or more credits(s) from the following:
•SCAN 3xxx
•SCAN 4xxx
•SCAN 5xxx

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Scientific and Technical Communication B.S.

Writing Studies

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 52 to 55
- Degree: Bachelor of Science

The Department of Writing Studies offers a B.S. in scientific and technical communication (S&TC). This degree offers a unique combination of written, oral, and visual communication theory and practice as it applies to interdisciplinary areas of science and technology.

This program examines how communication is a complex process that involves both the robust principles of audience, persuasion, clarity, accuracy, ethical integrity, and a command of the knowledge of scientific and technical topics that one communicates. Students have the opportunity to examine social, legal, ethical, and political implications of communication as they relate to science, environment, gender, technology, diverse cultures, and workplace practices.

Students study theories of rhetoric and communication and apply principles of audience analysis, writing and editing, information design, oral communication, and visual rhetoric. They engage in writing as a process and examine writing within communities of practice.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All required courses must be taken A-F (except for the internship, which is taken S-N), and students must earn a grade of at least C-.

Equivalent transfer courses are accepted in all areas (except for required WRIT courses). Students must complete a minimum of 37 credits of WRIT courses, plus 15 credits of courses within one of four sub-plan areas.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Core Courses

Take 7 courses for a total of 24 credits. Note: WRIT 3671, or WRIT 3701W, or WRIT 4501 can be taken in conjunction with WRIT 4995 to fulfill the senior project.

WRIT 3001 - Professional Practices in Scientific and Technical Communication (3.0 cr)
WRIT 3221W - Communication Modes and Methods [WI] (4.0 cr)
WRIT 3441 - Editing, Critique, and Style (3.0 cr)
WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)
WRIT 3671 - Visual Rhetoric and Document Design (3.0 cr)
WRIT 3701W - Rhetorical Theory for Writing Studies [WI] (4.0 cr)
WRIT 4501 - Usability and Human Factors in Technical Communication (3.0 cr)

Required Electives

Students must take at least 6 credits from each of the two categories for a total of 12 credits. Note: WRIT 3102W, or WRIT 3244W, or WRIT 4662W, or WRIT 3361, or WRIT 3381W, or WRIT 3577W can be taken in conjunction with WRIT 4995 to fulfill the senior

project.
Take 12 or more credits(s) from the following:
•**Oral, Written, Visual, and Digital Communication**
•Take 6 or more credits(s) from the following:
•WRIT 3029W - Business and Professional Writing [WI] (3.0 cr)
•WRIT 3101W - Writing Arguments [WI] (3.0 cr)
•WRIT 3102W - Public Writing [CIV, WI] (3.0 cr)
•WRIT 3244W - Critical Literacies: How Words Change the World [AH, DSJ, WI] (3.0 cr)
•WRIT 3257 - Scientific and Technical Presentations (3.0 cr)
•WRIT 3533 - Roles of the Reader (3.0 cr)
•WRIT 3672W - Project Design and Development [WI] (3.0 cr)
•WRIT 3751W - Seminar: Theory and Practice of Writing Consultancy [WI] (4.0 cr)
•WRIT 4196 - Internship in Scientific and Technical Communication (3.0 cr)
•WRIT 4573W - Writing Proposals and Grant Management [WI] (3.0 cr)
•WRIT 4662W - Writing With Digital Technologies [WI] (4.0 cr)
•**Science, Technology, and Society**
•Take 6 or more credits(s) from the following:
•WRIT 3152W - Writing on Issues of Science and Technology [WI] (4.0 cr)
•WRIT 3315 - Writing on Issues of Land and the Environment [AH, DSJ] (3.0 cr)
•WRIT 3361 - Literature of Social Movements in the United States: 1950 to 2000 [LITR, CIV] (3.0 cr)
•WRIT 3371 - Technology, Self, and Society (3.0 cr)
•WRIT 3381W - Writing and Modern Cultural Movements [AH, WI] (3.0 cr)
•WRIT 3577W - Rhetoric, Technology, and the Internet [TS, WI] (3.0 cr)
•WRIT 4431 - Intersections of Scientific and Technical Communication and Law (3.0 cr)
•WRIT 4664W - Science Writing for Popular Audiences [WI] (3.0 cr)

Senior Project
The senior project is completed during the final year of coursework. Take WRIT 4995 (1 cr.) in conjunction with any of the following upper-division WRIT courses: WRIT 3671, WRIT 3701W, WRIT 4501, WRIT 3102W, WRIT 3244W, WRIT 4662W, WRIT 3361, WRIT 3381W, or WRIT 3577W. Instructor consent is required prior to registration.
WRIT 4995 - Senior Project (1.0 cr)

Program Sub-plans
Students are required to complete one of the following sub-plans. (Note for the Twin Cities and Morris campuses: The honors sub-plan does not meet this requirement. Honors students are required to complete one sub-plan plus the honors sub-plan. Please see an adviser if no honors sub-plan is listed for the program.)

Information Technology and Design
Required Courses
Complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed, see department adviser for final consent. Note: Students completing this sub-plan are encouraged to take WRIT 3577W as one of their required electives for the major. WRIT 3577W does not count toward the required 15 credits in the sub-plan.
Take 15 or more credits(s) from the following:
•AFEE 3112 - Building Construction Technology (3.0 cr)
•ARCH 3611 - Design in the Digital Age (3.0 cr)
•ARTH 3422 - Off the Wall: History of Graphic Arts in Europe and America in the Modern Age (4.0 cr)
•COMM 3201 - Introduction to Electronic Media Production (3.0 - 4.0 cr)
•COMM 3204 - Advanced Electronic Media Production (4.0 cr)
•COMM 3211 - Introduction to U.S. Electronic Media (3.0 cr)
•COMM 4291 - New Telecommunication Media (3.0 cr)
•CSCI 1001 - Overview of Computer Science [MATH, TS] (4.0 cr)
•CSCI 1103 - Introduction to Computer Programming in Java (4.0 cr)
•CSCI 1113 - Introduction to C/C++ Programming for Scientists and Engineers (4.0 cr)
•CSCI 1901 - Structure of Computer Programming I (4.0 cr)
•CSCI 2011 - Discrete Structures of Computer Science (4.0 cr)
•CSCI 3921W - Social, Legal, and Ethical Issues in Computing [CIV, WI] (3.0 cr)
•DES 1101W - Introduction to Design Thinking [AH, WI] (4.0 cr)
•DES 2101 - Design and Visual Presentation (3.0 cr)
•DES 3311 - Travels in Typography (3.0 cr)
•GDES 1315 - Foundations: The Graphic Studio (4.0 cr)
•GDES 4131W - History of Graphic Design [WI] (4.0 cr)
•GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
•HSCI 3331 - Technology and American Culture [HIS, TS] (3.0 cr)

•HSCI 3401 - Ethics in Science and Technology [HIS, CIV] (3.0 cr)
•HSCI 3714 - Technology and Civilization: Stone Tools to Steam Engines [HIS, TS] (3.0 - 4.0 cr)
•HSCI 3715 - Technology and Civilization: Waterwheels to the Web [HIS, TS] (3.0 - 4.0 cr)
•HSCI 4321 - History of Computing [TS, HIS] (3.0 cr)
•HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
•JOUR 3006 - Visual Communication (3.0 cr)
•JOUR 3614 - History of Media Communication [HIS, TS] (3.0 cr)
•JOUR 4272 - Interactive Advertising (3.0 cr)
•JOUR 4551 - New Media and Culture [AH, TS] (3.0 cr)
•KIN 3505 - Intro to Human-Centered Design (3.0 cr)
•PHIL 4615 - Minds, Bodies, and Machines (3.0 cr)
•UC 3201 - Web Designer Introduction (4.0 cr)

Biological and Health Sciences

Required Courses

Students must complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed in consultation with department adviser.

Students are strongly encouraged to take BIOL 1009 and ANAT 3001 within this sub-plan to facilitate a stronger knowledge base for other required courses.
Take 15 or more credits(s) from the following:
•ANAT 3001 - Human Anatomy (3.0 cr)
•BIOC 2011 - Biochemistry for the Agricultural and Health Sciences (3.0 cr)
•BIOC 3021 - Biochemistry (3.0 cr)
•BIOL 1001 - Introductory Biology: Evolutionary and Ecological Perspectives [BIOL] (4.0 cr)
•BIOL 1009 - General Biology [BIOL] (4.0 cr)
•BIOL 1101W - Heredity and Human Society [CIV, WI] (3.0 cr)
•BIOL 2012 - General Zoology (4.0 cr)
•BIOL 2022 - General Botany (3.0 cr)
•BIOL 3811 - Introduction to Animal Behavior (4.0 cr)
•BIOL 3825 - Ecological Genetics (2.0 cr)
•BIOL 4003 - Genetics (3.0 cr)
•BIOL 4004 - Cell Biology (3.0 cr)
•CHEM 2101 - Introductory Analytical Chemistry Lecture (3.0 cr)
•CHEM 2111 - Introductory Analytical Chemistry Lab (2.0 cr)
•CHEM 2301 - Organic Chemistry I (3.0 cr)
•CHEM 2302 - Organic Chemistry II (3.0 cr)
•CHEM 2311 - Organic Lab (4.0 cr)
•CHEM 4001 - Chemistry of Biomass and Biomass Conversion to Fuels and Products [ENV] (4.0 cr)
•MICB 3301 - Biology of Microorganisms (5.0 cr)
•PHAR 1002 - Health Sciences Terminology (2.0 cr)
•PHAR 5201 - Health Sciences Applied Terminology (2.0 cr)
•PHCL 3100 - Pharmacology for Pre-Med and Life Science Students (2.0 cr)
•PHIL 1005 - Scientific Reasoning (4.0 cr)
•PHIL 3601W - Scientific Thought [WI] (4.0 cr)
•PHIL 4607 - Philosophy of the Biological Sciences (3.0 cr)
•PHSL 3051 - Human Physiology (4.0 cr)
•PUBH 3001 - Personal and Community Health (2.0 cr)
•PUBH 3004 - Basic Concepts in Personal and Community Health (4.0 cr)
•STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
•STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
•**Introductory Chemistry - Lecture & Lab**
•CHEM 1015 - Introductory Chemistry: Lecture (3.0 cr)
CHEM 1017 - Introductory Chemistry: Laboratory (1.0 cr)
•**Chemical Principles I - Lecture & Lab**
CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
•**Chemical Principles II - Lecture & Lab**
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)

Legal Discourse and Public Policy

Required Courses

Complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed, see departmental adviser for final consent. Note: Students completing this sub-plan are encouraged to take WRIT 3577W and WRIT 4431 as two of their required electives for the major. WRIT 3577W and WRIT 4431 do not count toward the required 15 credits in the sub-

plan.
Take 15 or more credits(s) from the following:
•AMIN 4231 - The Color of Public Policy: African Americans, American Indians, and Chicanos in the United States (3.0 cr)
•COMM 3631 - Freedom of Speech [CIV] (3.0 cr)
•CSCI 3921W - Social, Legal, and Ethical Issues in Computing [CIV, WI] (3.0 cr)
•JOUR 3007 - The Media in American History and Law: Case Studies [HIS] (3.0 cr)
•JOUR 3776 - Mass Communication Law (3.0 cr)
•JOUR 5552 - Law of Internet Communications (3.0 cr)
•PHIL 1001 - Introduction to Logic [MATH] (4.0 cr)
•PHIL 1004W - Introduction to Political Philosophy [AH, CIV, WI] (4.0 cr)
•PHIL 4321W - Theories of Justice [WI] (3.0 cr)
•POL 1001 - American Democracy in a Changing World [SOCS] (4.0 cr)
•POL 1201 - Political Ideas and Ideologies [HIS, CIV] (4.0 cr)
•POL 3225 - American Political Thought [CIV] (3.0 cr)
•POL 3308 - Congressional Politics and Institutions [SOCS] (3.0 cr)
•POL 3309 - Justice in America (3.0 cr)
•POL 4403W - Comparative Constitutionalism [GP, WI] (3.0 cr)
•POL 4485 - Human Rights and Democracy in the World [CIV] (3.0 cr)
•POL 4501W - The Supreme Court and Constitutional Interpretation [CIV, WI] (3.0 cr)
•POL 4502W - The Supreme Court, Civil Liberties, and Civil Rights [CIV, WI] (3.0 cr)
•SOC 3101 - Introduction to the American Criminal Justice System [SOCS, CIV] (3.0 cr)
•SOC 4101W - Sociology of Law [WI] (3.0 cr)
•SOC 4161 - Criminal Law in American Society (3.0 cr)
•SOC 4162 - Criminal Procedure in American Society (3.0 cr)
•SOC 4170 - Sociology of International Law [GP] (3.0 cr)
•SOC 4175 - Law, Politics, and Inequality (3.0 cr)

Environmental Science

Required Courses

Complete 15 credits in the sub-plan. Six of the 15 credits must be taken at 3xxx or above. Other courses may be allowed, see departmental adviser for final consent.
Take 15 or more credits(s) from the following:
•ANTH 3041 - Ecological Anthropology (3.0 cr)
•ANTH 4069 *{Inactive}*(3.0 cr)
•APEC 3611W - Environmental and Natural Resource Economics [ENV, WI] (3.0 cr)
•ARCH 4561 - Architecture and Ecology (3.0 cr)
•BBE 4733 - Renewable Energy Technologies [TS] (3.0 cr)
•CE 3501 - Environmental Engineering [ENV] (3.0 cr)
•CHEN 5551 - Survey of Renewable Energy Technologies (3.0 cr)
•EEB 3001 - Ecology and Society [ENV] (3.0 cr)
•ESCI 1001 - Earth and Its Environments [PHYS, ENV] (4.0 cr)
•ESCI 1012 - Natural Hazards and Disasters [TS] (3.0 cr)
•ESCI 2202 - Earth History (4.0 cr)
•ESCI 3002 - Climate Change and Human History [ENV] (3.0 cr)
•ESCI 3004 - Water and Society (3.0 cr)
•ESCI 3005 - Earth Resources (3.0 cr)
•ESPM 1011 - Issues in the Environment [ENV] (3.0 cr)
•ESPM 2041 - Natural Resources Consumption and Sustainability [GP] (3.0 cr)
•ESPM 3011W - Ethics in Natural Resources [WI] (3.0 cr)
•ESPM 3241W - Natural Resource and Environmental Policy [SOCS, CIV, WI] (3.0 cr)
•ESPM 3251 - Natural Resources in Sustainable International Development [GP] (3.0 cr)
•ESPM 3261 - Economics and Natural Resources Management [SOCS, ENV] (4.0 cr)
•ESPM 3601 - Sustainable Housing--Community, Environment, and Technology [TS] (3.0 cr)
•ESPM 3603 - Environmental Life Cycle Analysis (3.0 cr)
•ESPM 3604 - Environmental Management Systems and Strategy (3.0 cr)
•FW 4102 - Principles of Conservation Biology [ENV] (3.0 cr)
•GEOG 3401 - Geography of Environmental Systems and Global Change [ENV] (4.0 cr)
•HIST 3452 - African Conservation Histories (3.0 cr)
•HSCI 3244 - History of Ecology and Environmentalism [HIS, ENV] (3.0 cr)
•LA 3501 - Environmental Design and Its Biological and Physical Context [ENV] (3.0 cr)
•PHIL 3301 - Environmental Ethics [ENV] (4.0 cr)
•SOC 4305 - Society and the Environment: A Growing Conflict (3.0 cr)
•SOC 4311 - Race, Class, and the Politics of Nature (3.0 cr)
•URBS 3751 - Understanding the Urban Environment [ENV] (3.0 cr)
•AGRO 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)

or ANSC 3203W - Environment, Global Food Production, and the Citizen [GP, WI] (3.0 cr)
•AGRO 5321 - Ecology of Agricultural Systems (3.0 cr)
•BIOL 3407 - Ecology (3.0 cr)
or BIOL 3408W - Ecology [WI] (3.0 cr)
•SUST 3003 - Sustainable People, Sustainable Planet [ENV] (3.0 cr)
or GLOS 3304 - Sustainable People, Sustainable Planet (3.0 cr)
•GEOG 3379 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)
or GLOS 3303 - Environment and Development in the Third World [SOCS, ENV] (3.0 cr)

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html.

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Twin Cities Campus

Sociology B.A.

Sociology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 31 to 33
- Degree: Bachelor of Arts

Sociology examines stability and change in social life by addressing the underlying patterns of social relations in formal organizations, in legal institutions, and in the family, economy, and political arena.

Coursework focuses on the criminal justice system and criminal behavior, mental health, families and close relationships, education, urban and rural communities, politics and policy formation, social movements and social change, diverse racial and ethnic groups, and social psychology. Faculty interests in the comparative study of social relations and institutions in various countries add an international emphasis to these areas of study. All sociology courses emphasize the skills of social inquiry necessary for analyzing patterns of social relationships.

For more information, visit the sociology website for undergraduates at http://www.soc.umn.edu/undergrad/.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 1 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Coursework

Note: this course does not factor into the overall length in credits for the major.
SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or SOC 1011V - Honors: Introduction to Sociology [SOCS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Students may earn no more than one undergraduate degree from the Department of Sociology: a B.A. or B.S. or minor in sociology; or a B.A. or B.S. or minor in sociology of law, criminology, and deviance.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Required Courses

SOC 3701 - Social Theory (4.0 cr)
SOC 3801 - Sociological Research Methods (4.0 cr)
SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)

Required Electives

Students must complete at least five 3xxx-5xxx SOC elective courses. At least one elective must be 4xxx or higher. For honors students, at least two electives must must be 4xxx or higher.

Take 5 or more course(s) totaling 15 or more credits(s) from the following:
•SOC 3xxx
•SOC 4xxx
•SOC 5xxx

Senior Project
Take 4-6 credits. Before beginning the senior project, students must be a declared major and have completed all major coursework except one sociology elective course. Students are strongly advised to contact the department at least two semesters in advance of registration to insure they are on the senior project wait list. Students have three senior project registration options.
Seminar or Research
SOC 4966W - Major-Project Seminar [WI] (4.0 cr)
or SOC 4094W - Directed Research: Senior Project [WI] (4.0 cr)
or **Independent Study**
SOC 4967W - Advanced Senior Project Independent Study [WI] (1.0 cr)
The additional sociology elective must be pre-approved by the department adviser.
SOC 3xxx
or SOC 4xxx
or **Honors**
Honors students must take both pro-seminars, SOC 4977V and SOC 4978V, in their senior year.
SOC 4977V - Senior Honors Proseminar I [WI] (3.0 cr)
SOC 4978V - Senior Honors Proseminar II [WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students must complete at least two of the required five SOC electives at the 4xxx level. Students must take pro-seminars SOC 4977V and SOC 4978V in their senior year. Before beginning the pro-seminars, students must have completed all major core courses and at least three of the five required SOC electives.

Twin Cities Campus

Sociology B.S.

Sociology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 43 to 49
- Degree: Bachelor of Science

The B.S. program is for students interested in developing a rigorous mathematical concentration in research methodologies.

Sociology examines stability and change in social life by addressing the underlying patterns of social relations in formal organizations, in legal institutions, and in the family, economy, and political arena.

Coursework focuses on the criminal justice system and criminal behavior, mental health, families and close relationships, education, urban and rural communities, politics and policy formation, social movements and social change, diverse racial and ethnic groups, and social psychology. Faculty interests in the comparative study of social relations and institutions in various countries add an international emphasis to these areas of study. All sociology courses emphasize the skills of social inquiry necessary for analyzing patterns of social relationships.

For more information, visit the sociology website for undergraduates at http://www.soc.umn.edu/undergrad/.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 1 courses before admission to the program.

To be considered for the B.S. option, students must submit a written proposal to the undergraduate adviser in the Department of Sociology. Students will be declared for the B.A. in sociology until the proposal is approved by department faculty.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Coursework

Students are encouraged to complete two semesters of calculus before declaring the major. Calculus is a prerequisite for some courses in the major. Note: this course does not factor into the overall length in credits of the major.
SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or SOC 1011V - Honors: Introduction to Sociology [SOCS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

The B.S. is designed for students interested in a more rigorous concentration in the applied areas of statistics, computer science, mathematics, and philosophy of science (rather than a second language). Students with high aptitude for research and statistics, and/or a career interest in marketing or research are typically most interested in this option. The B.S. can be an extremely difficult program for individuals who are not strong mathematical thinkers. Students may earn no more than one undergraduate degree from the Department of Sociology: a B.A. or B.S. or minor in sociology; or a B.A. or B.S. or minor in sociology of law, criminology, and deviance.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Required Courses

SOC 3701 - Social Theory (4.0 cr)
SOC 3801 - Sociological Research Methods (4.0 cr)
SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)

Required Electives
Students must complete at least five 3xxx-5xxx SOC elective courses. At least one elective must be 4xxx or higher. For honors students, at least two electives must be 4xxx or higher.
Take 5 or more course(s) totaling 15 or more credits(s) from the following:
•SOC 3xxx
•SOC 4xxx
•SOC 5xxx

Supportive Field Group
Complete 12-16 credits. Students must have a departmentally-approved B.S. proposal before registering for supportive field group courses. Students are encouraged to take all four required courses from the first group of courses. If courses are chosen from the second group, no more than two may count toward the major.
Take 2 - 4 course(s) totaling 6 - 16 credits(s) from the following:
•CSCI 4041 - Algorithms and Data Structures (4.0 cr)
•ECON 4113 - Introduction to Mathematical Economics (4.0 cr)
•ECON 4211 - Principles of Econometrics (4.0 cr)
•MATH 4242 - Applied Linear Algebra (4.0 cr)
•MATH 4606 - Advanced Calculus (4.0 cr)
•MATH 5248 - Cryptology and Number Theory (4.0 cr)
•MATH 5335 - Geometry I (4.0 cr)
•MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
•MATH 5707 - Graph Theory and Non-enumerative Combinatorics (4.0 cr)
•STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
•STAT 3022 - Data Analysis (4.0 cr)
•STAT 4101 - Theory of Statistics I (4.0 cr)
•STAT 4102 - Theory of Statistics II (4.0 cr)
•STAT 5201 - Sampling Methodology in Finite Populations (3.0 cr)
•STAT 5302 - Applied Regression Analysis (4.0 cr)
•STAT 5421 - Analysis of Categorical Data (3.0 cr)
•Take 0 - 2 course(s) totaling 0 - 8 credits(s) from the following:
 •EPSY 3119 - Learning, Cognition, and Assessment (3.0 cr)
 •EPSY 5113 - Psychology of Instruction and Technology (3.0 cr)
 •EPSY 5114 - Psychology of Student Learning (3.0 cr)
 •PHIL 3601W - Scientific Thought [WI] (4.0 cr)
 •PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)

Senior Project
Take 4-6 credits. All major coursework must be completed prior to beginning the senior project. Elective coursework must be taught by the same faculty member who is guiding the student's project. Students have three senior project registration options.
Seminar or Research
SOC 4966W - Major-Project Seminar [WI] (4.0 cr)
or SOC 4094W - Directed Research: Senior Project [WI] (4.0 cr)
or **Independent Study**
SOC 4967W - Advanced Senior Project Independent Study [WI] (1.0 cr)
The additional sociology elective must be pre-approved by the department adviser.
SOC 3xxx
or SOC 4xxx
or SOC 5xxx
or **Honors**
Honors students must take both pro-seminars, SOC 4977V and SOC 4978V, in their senior year.
SOC 4977V - Senior Honors Proseminar I [WI] (3.0 cr)
SOC 4978V - Senior Honors Proseminar II [WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirement, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students must complete at least two of the required five SOC electives at the 4xxx level. Students must take pro-seminars SOC 4977V and SOC 4978V in their senior year. Before beginning the pro-seminars, students must have completed all major core courses and at least three of the five required SOC electives.

Twin Cities Campus

Sociology of Law, Criminology, and Deviance B.A.

Sociology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 31 to 33
- Degree: Bachelor of Arts

Sociology examines stability and change in social life by addressing the underlying patterns of social relations in formal organizations, in legal institutions, and in the family, economy, and political arena.

Coursework focuses on the criminal justice system and criminal behavior, mental health, families and close relationships, education, urban and rural communities, politics and policy formation, social movements and social change, diverse racial and ethnic groups, and social psychology. Faculty interests in the comparative study of social relations and institutions in various countries add an international emphasis to these areas of study. All sociology courses emphasize the skills of social inquiry necessary for analyzing patterns of social relationships.

For more information, visit the sociology website at http://www.soc.umn.edu/undergrad/.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 1 courses before admission to the program.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Course

Note: this course does not factor into the overall length in credits of the major.
SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or SOC 1011V - Honors: Introduction to Sociology [SOCS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of any second language.

Before beginning the senior project, students must complete all major coursework except one elective course. Students must be on a pre-approved waiting list to register for the senior project and should contact the Department of Sociology at least two semesters in advance of registration. Students may earn no more than one undergraduate degree from the Department of Sociology: a B.A. or B.S. or minor in sociology; or a B.A. or B.S. or minor in sociology of law, criminology, and deviance.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Criminal Justice or Behavior

SOC 3101 - Introduction to the American Criminal Justice System [SOCS, CIV] (3.0 cr)
or SOC 3102 - Introduction to Criminal Behavior and Social Control (3.0 cr)

Theory & Methods

SOC 3701 - Social Theory (4.0 cr)

SOC 3801 - Sociological Research Methods (4.0 cr)
SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)

Electives
Take 12 credits. At least three credits must be non-31xx and non-41xx. At least six credits must be 41xx.

Take 12 or more credits(s) from the following:
•SOC 3xxx
•SOC 4xxx
•SOC 5xxx

Senior Project
Take 4-6 credits. Before beginning the senior project, students must complete all major coursework except one elective course. The elective must be taught by the same faculty member who is guiding the student project. Elective coursework must be chosen from a list available from the department. Students have three senior project registration options.
Seminar or Research
SOC 4094W - Directed Research: Senior Project [WI] (4.0 cr)
or SOC 4966W - Major-Project Seminar [WI] (4.0 cr)
or **Independent Study**
SOC 4967W - Advanced Senior Project Independent Study [WI] (1.0 cr)
The additional sociology elective must be pre-approved by the departmental adviser.
SOC 3xxx
or SOC 4xxx
or SOC 5xxx
or **Honors**
Honors students must take both pro-seminars, SOC 4977V and SOC 4978V, in their senior year.
SOC 4977V - Senior Honors Proseminar I [WI] (3.0 cr)
SOC 4978V - Senior Honors Proseminar II [WI] (3.0 cr)

Program Sub-plans
A sub-plan is not required for this program.

Honors UHP
This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students must complete at least two of the required five SOC electives at the 4xxx level. Students must take pro-seminars SOC 4977V and SOC 4978V in their senior year. Before beginning the pro-seminars, students must have completed all major core courses and at least three of the five required SOC electives.

Twin Cities Campus

Sociology of Law, Criminology, and Deviance B.S.

Sociology

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 43 to 49
- Degree: Bachelor of Science

Sociology examines stability and change in social life by addressing the underlying patterns of social relations in formal organizations, in legal institutions, and in the family, economy, and political arena.

Coursework focuses on the criminal justice system and criminal behavior, mental health, families and close relationships, education, urban and rural communities, politics and policy formation, social movements and social change, diverse racial and ethnic groups, and social psychology. Faculty interests in the comparative study of social relations and institutions in various countries add an international emphasis to these areas of study. All sociology courses emphasize the skills of social inquiry necessary for analyzing patterns of social relationships.

For more information, visit the sociology website at www.soc.umn.edu/undergrad/.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Students must complete 1 courses before admission to the program.

To be considered for the B.S. program, students must submit a written proposal to the undergraduate adviser in the Department of Sociology. Students will be signed up for the B.A. in sociology of law, criminology, and deviance until the proposal is approved by department faculty.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Preparatory Courses

Students are encouraged to complete two semesters of calculus before declaring the major. Calculus is often a prerequisite to complete other courses in the major. Note: this course does not factor into the overall length in credits for the major.
SOC 1001 - Introduction to Sociology [SOCS] (4.0 cr)
or SOC 1011V - Honors: Introduction to Sociology [SOCS, WI] (4.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

All major coursework must be completed before beginning the senior project. Students must be on a pre-approved waiting list to register for the senior project and should contact the Department of Sociology at least two semesters in advance of registration. Students may earn no more than one undergraduate degree from the Department of Sociology: a B.A. or B.S. or minor in sociology; or a B.A. or B.S. or minor in sociology of law, criminology, and deviance.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific information about this collegiate requirement can be found at: http://class.umn.edu/degree_requirements/index.html

Major Courses

Criminal Justice or Behavior

SOC 3101 - Introduction to the American Criminal Justice System [SOCS, CIV] (3.0 cr)

or SOC 3102 - Introduction to Criminal Behavior and Social Control (3.0 cr)

Theory and Methods

SOC 3701 - Social Theory (4.0 cr)
SOC 3801 - Sociological Research Methods (4.0 cr)
SOC 3811 - Basic Social Statistics [MATH] (4.0 cr)

Electives

Take 12 credits. At least three credits must be non-31xx and non-41xx. At least six credits must be 41xx.

Take 12 or more credits(s) from the following:

•SOC 3xxx
•SOC 4xxx
•SOC 5xxx

Supportive Field Courses

Complete 12-16 credits. Students must have a departmentally-approved B.S. proposal before registering for supportive field group courses. Students are encouraged to take all four required courses from the first group of courses. If courses are chosen from the second group, no more than two may count toward the major.

Take 2 - 4 course(s) totaling 6 - 16 credits(s) from the following:

•CSCI 4041 - Algorithms and Data Structures (4.0 cr)
•ECON 4113 - Introduction to Mathematical Economics (4.0 cr)
•ECON 4211 - Principles of Econometrics (4.0 cr)
•ECON 4261 - Introduction to Econometrics (4.0 cr)
•MATH 4242 - Applied Linear Algebra (4.0 cr)
•MATH 4606 - Advanced Calculus (4.0 cr)
•MATH 5248 - Cryptology and Number Theory (4.0 cr)
•MATH 5335 - Geometry I (4.0 cr)
•MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
•MATH 5707 - Graph Theory and Non-enumerative Combinatorics (4.0 cr)
•STAT 3021 - Introduction to Probability and Statistics (3.0 cr)
•STAT 3022 - Data Analysis (4.0 cr)
•STAT 4101 - Theory of Statistics I (4.0 cr)
•STAT 4102 - Theory of Statistics II (4.0 cr)
•STAT 5201 - Sampling Methodology in Finite Populations (3.0 cr)
•STAT 5302 - Applied Regression Analysis (4.0 cr)
•STAT 5421 - Analysis of Categorical Data (3.0 cr)
•Take 0 - 2 course(s) totaling 0 - 8 credits(s) from the following:
 •EPSY 3119 - Learning, Cognition, and Assessment (3.0 cr)
 •EPSY 5113 - Psychology of Instruction and Technology (3.0 cr)
 •EPSY 5114 - Psychology of Student Learning (3.0 cr)
 •PHIL 3601W - Scientific Thought [WI] (4.0 cr)
 •PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)

Senior Project

Take 4-6 credits. All major coursework must be completed prior to beginning the senior project. Elective coursework must be taught by the same faculty member who is guiding the student's project. Students have three senior project registration options.

Seminar or Research

SOC 4094W - Directed Research: Senior Project [WI] (4.0 cr)
or SOC 4966W - Major-Project Seminar [WI] (4.0 cr)

or **Independent Study**

SOC 4967W - Advanced Senior Project Independent Study [WI] (1.0 cr)

The additional sociology elective must be pre-approved by the departmental adviser.

SOC 3xxx
or SOC 4xxx
or SOC 5xxx

Honors

Honors students must take both pro-seminars, SOC 4977V and SOC 4978V, in their senior year.

SOC 4977V - Senior Honors Proseminar I [WI] (3.0 cr)
SOC 4978V - Senior Honors Proseminar II [WI] (3.0 cr)

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students complete an honors thesis project in the final year, most often in conjunction with an honors thesis course, or with an honors directed studies, or honors directed research course. Students select honors courses and plan for a thesis project in consultation with their UHP adviser and their departmental faculty adviser.

Honors students must complete at least two of the required five SOC electives at the 4xxx level. Students must take pro-seminars SOC 4977V and SOC 4978V in their senior year. Before beginning the pro-seminars, students must have completed all major core courses and at least three of the five required SOC electives.

Twin Cities Campus

Spanish and Portuguese Studies B.A.

Spanish & Portuguese

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 35
- Degree: Bachelor of Arts

The program develops analytical skills and methodologies needed to explore Hispanic, Hispanic-American, and Luso-Brazilian languages and cultures. The department offers two majors (Spanish studies and combined Spanish-Portuguese studies) and two minors (Spanish studies and Portuguese studies).

It is important to note that department majors and minors are not simply Spanish and Portuguese language programs; rather, they are liberal arts programs concentrating on Spanish, Latin American, and/or Luso-Brazilian literary, cultural, and linguistics studies with language skills as the foundation. All major and minor options in this department begin with prerequisite language courses, followed by advanced language skills courses (special arrangements may be made for native speakers of Spanish or Portuguese). These are followed by critical analysis skills courses in Hispanic literature, culture, and linguistics that prepare students to take advanced coursework in specific areas. The major options culminate in the completion of a senior project through a SPAN 5xxx course, or SPAN 3972W.

The department strongly encourages majors and minors to study abroad in a Spanish- or Portuguese-speaking area. Students who wish to complete department program requirements through study abroad must meet with the department adviser prior to departure. Detailed information regarding undergraduate Spanish and Portuguese studies academic issues is printed in the Undergraduate Advising Handbook (also available at http://spanport.cla.umn.edu).

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Students are required to take 4 semester(s) of Spanish and Portuguese.

The four required semesters of a second language do not factor into the overall length of credits in the major.

Students must complete at least 6 of the major courses in residence. Three courses fulfilled at UMNTC campus or through sponsored study abroad programs. Three courses must be advanced electives courses(at least 2 with SPAN31xx prereq)and must be taken at UMNTC campus (including SPAN3972W/SPAN5xxx/PORT5xxx). Majors required to enroll in minimum 6-week study abroad experience or semester-long service learning course. Study abroad req must be fulfilled in a Span-and/or Port-speaking country, involve coursework in Spanish and/or Portuguese, and include courses related to Spanish and/or Portuguese Studies. Consult adviser for final consent. Service learning req fulfilled by SPAN3401, 3404, and other courses with adviser consent. Major requires students to take at least 5-6 semesters of language, which is above and beyond CLA second language req. Students pursuing a second CLA major may choose to complete the senior project req in the other major. These students must substitute 3 credits of an adviser-approved SPAN3xxx or 5xxx elective with a SPAN31xx pre-req, or an adviser-approved PORT3xxx or 5xxx elective for SPAN3972W.

Students may receive no more than one degree from the Dept of Spanish & Portuguese Studies: Spanish Studies BA or Spanish & Portuguese Studies BA or minor in Spanish Studies or minor in Portuguese Studies.

Beginning fall 2012, all incoming CLA freshman must complete the appropriate First Year Experience course sequence. Specific

information about

Preparatory Courses

Choose from the following two options: (1) complete the Spanish language sequence and PORT 3001, or (2) complete the Spanish language sequence and the Portuguese language sequence. Students who have not completed SPAN 1001 at the U of M must take SPAN 1022 in place of SPAN 1002. Students may start above SPAN 1001 based on language placement.

Option 1

SPAN 1001 - Beginning Spanish (5.0 cr)
SPAN 1002 - Beginning Spanish (5.0 cr)
or SPAN 1022 - Alternate Second-Semester Spanish (5.0 cr)
SPAN 1003 - Intermediate Spanish (5.0 cr)
SPAN 1004 - Intermediate Spanish (5.0 cr)
or SPAN 1014 - Business Spanish (5.0 cr)
or SPAN 1044 - Intermediate Medical Spanish (5.0 cr)
PORT 3001 - Portuguese for Spanish Speakers (4.0 cr)

or **Option 2**

SPAN 1001 - Beginning Spanish (5.0 cr)
SPAN 1002 - Beginning Spanish (5.0 cr)
or SPAN 1022 - Alternate Second-Semester Spanish (5.0 cr)
SPAN 1003 - Intermediate Spanish (5.0 cr)
SPAN 1004 - Intermediate Spanish (5.0 cr)
or SPAN 1014 - Business Spanish (5.0 cr)
or SPAN 1044 - Intermediate Medical Spanish (5.0 cr)
PORT 1101 - Beginning Portuguese (5.0 cr)
PORT 1102 - Beginning Portuguese (5.0 cr)
PORT 1103 - Intermediate Portuguese (5.0 cr)
PORT 1104 - Intermediate Portuguese (5.0 cr)

Major Courses

Take PORT 3003, SPAN 3015, SPAN 3104W, SPAN 3107W, and one PORT 35xx.

PORT 3003 - Portuguese Conversation and Composition (4.0 cr)
SPAN 3015 - Spanish Composition and Communication (4.0 cr)
SPAN 3104W - Introduction to the Study of Hispanic Literatures [LITR, WI] (3.0 cr)
SPAN 3107W - Introduction to the Study of Hispanic Linguistics [WI] (3.0 cr)
PORT 3501W - Global Portuguese I [WI] (3.0 cr)
or PORT 3502W - Global Portuguese II [WI] (3.0 cr)
or PORT 3503W - Literatures and Cultures of Lusophone Africa [WI] (3.0 cr)

Electives

Take a minimum of two courses at the SPAN 3xxx level, two courses at the PORT 3xxx level, and one additional SPAN or PORT elective course from the list below. At least two courses must have a SPAN 31xx prerequisite. Honors students must take at least one SPAN/PORT 5xxx. Note: PORT 3001 is a preparatory course, and will not count toward the 'Electives' sub-requirement.

Spanish Electives

Take 2 or more course(s) totaling 6 or more credits(s) from the following:

•SPAN 3211 - Discourses of Imperial Spain, 1492-1800 (3.0 cr)
•SPAN 3212 - Discourses of Modern and Contemporary Spain, 1800-Present (3.0 cr)
•SPAN 3221 - Latin American Colonial Discourses: Empire and Early Modernity (3.0 cr)
•SPAN 3222 - Discourses of Modern and Contemporary Latin America (3.0 cr)
•SPAN 3501 - Roots of Modern Spain and Latin America (3.0 cr)
•SPAN 3502 - Modern Spain (3.0 cr)
•SPAN 3510 - Issues in Hispanic Cultures (3.0 cr)
•SPAN 3512 - Modern Latin America (3.0 cr)
•SPAN 3701 - Structure of Spanish: Phonology and Phonetics (3.0 cr)
•SPAN 3702 - Structure of Spanish: Morphology and Syntax (3.0 cr)
•SPAN 3703 - Origins and History of Spanish and Portuguese (3.0 cr)
•SPAN 3704 - Sociolinguistics of the Spanish-Speaking World (3.0 cr)
•SPAN 3705 - Semantics and Pragmatics of Spanish (3.0 cr)
•SPAN 3706 - Spanish Applied Linguistics (3.0 cr)
•SPAN 3707 - Linguistic Accuracy Through Translation (3.0 cr)
•SPAN 3730 - Topics in Hispanic Linguistics (3.0 cr)
•SPAN 3800 - Film Studies in Spanish (3.0 cr)
•SPAN 3910 - Topics in Spanish Peninsular Literature (3.0 cr)
•SPAN 3920 - Topics in Spanish-American Literature (3.0 cr)

Portuguese Electives

Take 2 or more course(s) totaling 6 or more credits(s) from the following:

•PORT 3501W - Global Portuguese I [WI] (3.0 cr)
•PORT 3502W - Global Portuguese II [WI] (3.0 cr)
•PORT 3503W - Literatures and Cultures of Lusophone Africa [WI] (3.0 cr)
•PORT 3800 - Film Studies in Portuguese (3.0 cr)
•PORT 3910 - Topics in Lusophone Literatures and Cultures (3.0 cr)
•PORT 3970 - Directed Readings (1.0 - 4.0 cr)

Additional Spanish or Portuguese Elective

Take 1 or more course(s) totaling 3 or more credits(s) from the following:
•PORT 3xxx
•PORT 5xxx
•SPAN 5xxx
•SPAN 3022 - Advanced Business Spanish (4.0 cr)
or SPAN 3044 - Advanced Medical Spanish (4.0 cr)
or SPAN 3401 - Latino Immigration and Community Service [CIV] (3.0 cr)
or SPAN 3404 - Medical Spanish and Community Health Service (3.0 cr)

Senior Seminar

Majors fulfill the senior seminar requirement one of two ways: after all other major courses are complete, enroll in SPAN 3972W with departmental adviser permission and attend a graduation seminar informational/preparatory session offered by the department several times a year, or enroll in a SPAN 5xxx or PORT 5xxx with instructor permission. Honors students must enroll in SPAN 3972W.
SPAN 3972W - Graduation Seminar [WI] (3.0 cr)
or SPAN 5xxx
or PORT 5xxx

Program Sub-plans

A sub-plan is not required for this program.

Honors UHP

This is an honors sub-plan.

Students admitted to the University Honors Program (UHP) must fulfill UHP requirements, in addition to degree program requirements. Honors courses used to fulfill degree program requirements will also fulfill UHP requirements.

Current departmental honors course offerings are listed at:
http://www.honors.umn.edu/academics/curriculum/dept_courses_current.html

Honors students must complete at least one SPAN or PORT 5xxx course, as well as an honors thesis project completed in the final year while taking SPAN 3972W.