Twin Cities Campus

Geography B.S.

Geography, Environment, Society

College of Liberal Arts

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 38
- Degree: Bachelor of Science

Geography is an academic and practical field that studies the manner in which human-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

Major Courses

GEOG 3401W - Geography of Environmental Systems and Global Change [ENV, WI] (3.0 cr)
GEOG 3561 - Principles of Geographic Information Science (4.0 cr)
GEOG 1301W - Our Globalizing World [SOCS, GP, WI] (3.0 cr)
or GEOG 3371W - Cities, Citizens, and Communities [DSJ, WI] (3.0 cr)
GEOG 4001 - Modes of Geographic Inquiry (3.0 cr)
or GEOG 4002W - Environmental Thought and Practice [WI] (3.0 cr)

Quantitative Courses

Take one of the following pairs of courses.
CSCI 1107 *{Inactive}*(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 2 credits by choosing to: enroll in GEOG 3985W (honors students should enroll in GEOG 3985V); OR enroll in

GEOG 3994; OR enroll in GEOG 4700, and take either GEOG 4121W or GEOG 3411W concurrently with or before GEOG 4700; OR add an additional two credits onto a GEOG major concentration-track course. Note: if choosing GEOG 4700 as the Senior Project, completion of this requirement won't be granted until GEOG 4121W or GEOG 3411W AND GEOG 4700 are complete.
GEOG 3985W *{Inactive}*[WI] (4.0 cr)
or GEOG 3985V *{Inactive}*[WI] (4.0 cr)
or GEOG 3994 - Directed Research (1.0 - 8.0 cr)
or GEOG 4700 *{Inactive}*(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.

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 5 or more course(s) from the following:
- GEOG 1403 - Biogeography of the Global Garden [BIOL, ENV] (4.0 cr)
- GEOG 1425 - Introduction to Weather and Climate [PHYS, ENV] (4.0 cr)
- GEOG 1502 - Mapping Our World [TS, SOCS] (3.0 cr)
- GEOG 3355 *{Inactive}*(3.0 cr)
- GEOG 3361W *{Inactive}*[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] (3.0 cr)
- GEOG 3411W - Geography of Health and Health Care [WI] (3.0 cr)
- GEOG 3431 - Plant and Animal Geography (3.0 cr)
- GEOG 4121W *{Inactive}*[WI] (4.0 cr)
- GEOG 3362 *{Inactive}*(3.0 cr)
- GEOG 5411W *{Inactive}*[WI] (4.0 cr)
- GEOG 5421 *{Inactive}*(3.0 cr)
- GEOG 5423 *{Inactive}*(3.0 cr)
- GEOG 5426 - Climatic Variations (3.0 cr)
- GEOG 5441 *{Inactive}*(3.0 cr)
- GEOG 5565 *{Inactive}*(3.0 cr)
- ESCI 4701 - Geomorphology (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 5 or more course(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 (4.0 cr)
- GEOG 5512 *{Inactive}*(3.0 cr)
- GEOG 5530 *{Inactive}*(2.0 - 7.0 cr)
- GEOG 5561 - Principles of Geographic Information Science (4.0 cr)
- GEOG 5562 - GIS Development Practicum (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 *{Inactive}*(3.0 cr)

Information current as of March 28, 2024