



**Twin Cities Campus**

## Geographic Information Science Minor

*Geography, Environment, Society*

**College of Liberal Arts**

- Program Type: Undergraduate free-standing minor
- Requirements for this program are current for Fall 2015
- Required credits in this minor: 16

The interdisciplinary undergraduate minor in geographic information science examines geospatial technologies and their underlying principles, applications, and societal dimensions. Examples of geospatial technologies and research include internet mapping, in-vehicle navigation systems, digital cartography, imagery taken by airplanes and satellites, spatial analysis and modeling of social and natural processes, and visualization and data mining of complex information.

### Program Delivery

This program is available:

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

### Minor Requirements

Several of the courses for the minor have prerequisites that must be satisfied first. Admission to the minor does not imply automatic enrollment in individual courses.

#### Core Courses

- [GEOG 5563](#) - Advanced Geographic Information Science (3.0 cr)
- [GEOG 3561](#) - Principles of Geographic Information Science (4.0 cr)
- or [FNRM 3131](#) - Geographical Information Systems (GIS) for Natural Resources [TS] (4.0 cr)

#### Electives

No more than two courses with the same designator may be used to fulfill the requirement.

Take 3 or more course(s) totaling 9 or more credit(s) from the following:

- [HSG 5464](#) *{Inactive}* (3.0 cr)
- [ESPM 3031](#) - Applied Global Positioning Systems for Geographic Information Systems (3.0 cr)
- [ESPM 4295W](#) - GIS in Environmental Science and Management [WI] (4.0 cr)
- [FNRM 3262](#) - Remote Sensing and Geospatial Analysis of Natural Resources and Environment (3.0 cr)
- [FNRM 5462](#) - Advanced Remote Sensing and Geospatial Analysis (3.0 cr)
- [GIS 5571](#) - ArcGIS I (3.0 cr)
- [GIS 5572](#) - ArcGIS II (3.0 cr)
- [SOIL 4111](#) - Introduction to Precision Agriculture (3.0 cr)
- Take no more than 2 course(s) from the following:
  - [CSCI 4041](#) - Algorithms and Data Structures (4.0 cr)
  - [CSCI 4107](#) *{Inactive}* (3.0 cr)
  - [CSCI 4707](#) - Practice of Database Systems (3.0 cr)
  - [CSCI 5115](#) - User Interface Design, Implementation and Evaluation (3.0 cr)
- Take no more than 2 course(s) from the following:
  - [GEOG 3511](#) - Principles of Cartography (4.0 cr)
  - [GEOG 3531](#) - Numerical Spatial Analysis (4.0 cr)
  - [GEOG 5564](#) - Urban Geographic Information Science and Analysis (3.0 cr)
  - [GEOG 5565](#) *{Inactive}* (3.0 cr)