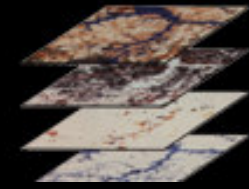




# Certificate in Cartography & Geographic Information Systems



The Program Certificate in Cartography and Geographic Information Systems (GIS) is designed to give the student a substantial background in the fields of cartography and geographic information systems. Students completing the program will be familiar with the terminology, techniques and theory of cartography and GIS principles. Hands-on computer experience is a major feature of many of the courses. The program complements majors in disciplines other than geography, while increasing the geography major's preparation for the job market.

The student must earn a grade point average of at least 3.0 in the 15 credit hours of courses taken for the certificate. The GIS certificate is designed for traditional and non-traditional students to improve and update their GIS knowledge and then enhance their GIS and Cartography career. The certificate program provides undergraduate and graduate students in Geography, Business, Biology, Computer Science, and other disciplines the opportunity to develop expertise in the creation, manipulation, analysis, and display of geographic information.

For more information please visit our Department Website at <http://fp.uni.edu/geography>

## GIS Certificate (15 total hours)

### Required Courses: (9 credit hours)

- 970:164 GIS 1: Introductory GIS
- 970:165 Thematic Cartography
- 970:174 GIS 2: Advanced GIS

### Technical Electives: (6 credit hours)

Select two courses from:

- 970:160 Spatial Data Analysis
- 970:163 Aerial Photo Interpretation and Photogrammetry
- 970:173 Remote Sensing of the Environment
- 970:175 Global Positioning System Field Survey Methods
- 970:183 Satellite Image Processing

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### For more information contact

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The Geographic Information System and Cartographic Services computing laboratory at UNI includes state-of-art technology. This lab is equipped with 17 Dell Optiplex 3.2GHz PC computers (1024MB RAM, 19" LCD display, CD/DVD burner), running Windows XP Professional. Just some of the applications available in the department are: ArcGIS, ArcView, ArcIMS, ArcSDE, SQL Server, ERDAS Imagine, ENVI, eCognition, GPS software, U4ia, AutoCAD, and Architectural Desktop. The lab also features other peripherals, such as color plotters, color printers, scanners, digitizers, and GPS receivers (GeoXT and ProXR).



## Computer Lab