GSS

Geospatial Science

GSS 509: Digital Cartography
Maps portray spatial relationships among selected phenomena of interest and increasingly are used for analysis and synthesis. Cartography is the knowledge associated with the art, science, and technology of maps. Digital computer cartography still follows the same fundamental principles and still requires a broad understanding of graphicacy as a language (as well as numeracy and literacy). This course will provide an introduction to cartographic principles, concepts, software and hardware necessary to produce good maps, especially in the context (and limitations) of geographic information systems (GIS).

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.

GSS 513: GIS Fundamentals I
This course provides the basic concepts underlying modern geographic information science and technology. Emphasis is placed on the principles of GIS for collecting, storing, characterizing, and maintaining data and computer-based techniques for processing and analyzing spatial data. The course includes three hours of lecture, in class exercises and homework projects each week. This is a computer based class with the majority of students work involving GIS computer software. Prerequisite: working knowledge of spreadsheet software.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated 1 times FOR credit.

GSS 523: Geodatabase and Design
Concepts of geodatabase design and management in geographic information systems (GIS), SQL statements, geographic data types and functions, data entry, and techniques of geographic information structure applications.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.

GSS 525: GIS Fundamentals II
GIS Fundamentals II will introduce the applied use of Geographic Information Systems (GIS) which is now used extensively in analytical studies. The course emphasizes the applications of GIS in solving real-world problems. Students are expected to gain an understanding of GIS theory, methodology and most importantly application. Students are also expected to demonstrate abilities of spatial thinking, spatial analysis, and be able to solve practical spatial problems utilizing a GIS.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.

GSS 526: GIS Project Management
This course will enable students to addresses issues unique to a GIS operation such as: identify implementation issues for a GIS project or program; be prepared to assist in decision making procedures that involve management; incorporate strategies for success in your workplace; understand some of the legal issues about the use of GIS data; and be aware of the GIS industry outlook for employment and education.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.

GSS 555: GIS and Remote Sensing
This course provides a basic overview of the technology by which aircraft and satellite data are produced and utilized in analyses to answer questions within a geographic context. Students will learn to identify sources of remotely sensed imagery appropriate for common applications; acquire, manipulate, and interpret aerial photographs and satellite imagery/data; and incorporate remote sensing data into Geographic Information Systems.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.

GSS 588: GIS Internship
The GIS Internship is designed to provide students experience in the real workplace. Interns are expected to function as a GIS professional and work within the existing host facility structure or on a free standing project. Interns will complete assigned tasks by hosting facility such as GIS data entry, data retrieval, GPS field work, documentation, or general GIS facility duties. These activities will be monitored by both a representative of the host facility and the instructor.

3 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.