Geographic Information Systems (GIS)

Geographic Information Systems (GIS) Classes

GIS 189 : GIS, Mapping, and Society

Credits: 3
Class Hours: 3 lecture
Prerequisites: Qualified for ENG 100.
Description: Geographic Information Systems (GIS) is a computerized system used to design, capture, store, manipulate, analyze, manage, and present geographically referenced information or data. It combines cartography, statistical analysis, and databases to manipulate spatial areas for a given application. This introductory course will cover the use and application of GIS combining an overview of general principles of GIS and practical experience in the analytical use of spatial information. Students will gain an overall knowledge of GIS, analyze the social context of mapping and knowledge production, examine the diverse range of GIS applications, and complete a final project with a practical component involving the use of an analytical software package: ArcGIS by ESRI (Environmental System Research Institute).
Semester Offered: Fall, Spring
Designation:
Diversification: Social Sciences — DS

GIS 200 : Interpreting and Creating GIS Maps

Credits: 3
Class Hours: 3 lecture
Prerequisites: "C" or higher or concurrent enrollment in GIS 189.
Description: This course introduces advanced geospatial analysis techniques, including Global Positioning Systems (GPS), Geographic Information Systems (GIS) database and overlay creation, data classification, location analysis, distribution and density, geovisualization techniques, and map interpretation through the use and application of GIS. This course will combine an overview of general principles of GIS and practical experience in the analytical use of spatial information. Students will gain greater in-depth knowledge of geospatial analysis and examine the social context of mapping and knowledge production, examine the diverse range of GIS applications, and complete a final project with a practical component involving the use of a geospatial analysis software package. Special emphasis and concentration will focus on sustainability, considering the current and future use and protection of resources in light of land management.
Semester Offered: Fall, Spring

GIS 205 : GIS Database Design and Programming

Credits: 3
Class Hours: 3 lecture
Prerequisites: "C" or higher in GIS 189 and GIS 200.
Corequisite Courses:
GIS 205L
Description: This course will cover advanced compilation, database design, and production of maps, including the use of Global Positioning Systems (GPS), Geographic Information Systems (GIS), data export-to-CAD, research, presentations, and illustration using ArcGIS mapping software. Special emphasis and concentration will focus on sustainability, considering the current and future use and protection of resources in light of land management. Class includes a required lab.
Semester Offered: Fall, Spring

GIS 205L : GIS Database Design and Programming Laboratory

Credits: 1

Class Hours: 3 lab
Prerequisites: "C" or higher in GIS 189 and GIS 200.
Corequisite Courses:
GIS 205
Description: This course will cover the technical exercises of advanced compilation, design, and production of maps, including the use of Global Positioning Systems (GPS), Geographic Information Systems (GIS), research, presentations, and illustration using mapping software. Special emphasis and concentration will focus on sustainability, considering the current and future use and protection of resources in light of land management.
Semester Offered: Fall, Spring

GIS 213 : Advanced Geospatial Techniques

Credits: 3
Class Hours: 3 lecture
Prerequisites: "C" or higher in GIS 205 and GIS 205L.
Description: This course covers the applications of advanced Geographic Information Systems (GIS) technologies to various problems or issues in the social, natural, and environmental sciences. Remote sensing techniques, radar, and satellite imagery map design will be introduced along with an overview of current advances in geospatial technology, including 3D mapping, online, and cloud mapping.
Semester Offered: Fall, Spring

GIS 214 : Practicum in GIS

Credits: 3
Class Hours: 3 lecture
Prerequisites: "C" or higher in GIS 205 and GIS 205L.
Comments: May be repeated for a maximum of 6 credits.
Description: This course is a practicum that will assist students entering the Geographic Information Systems (GIS) job market through internship opportunities in applied geography under professional and faculty supervision. Field placement is integrated with academic study.
Semester Offered: Fall, Spring