

SUBJECTS AND COURSES

COURSE DESCRIPTIONS - GEOGRAPHIC INFORMATION SY (GIS)

GIS 101 Intro to Geographic Informatio

This is an introductory GIS course focusing on maps, map analysis, and an introduction to computers. Emphasis is placed on raster GIS capabilities, data acquisition, spatial databases, and using GIS and GIS trends. Upon completion, students will demonstrate the ability to use GIS in spatial analysis, output, graphics output design issues, modes of user/GIS interaction, generating complex products and using GIS for archives.

2 Credit Hours

GIS 201 Intro to Geographic Info Sys

This course introduces students to the concepts, techniques, and tools of Geographic Information Systems (GIS), which is a computer-based data processing tool used to manage and analyze spatial information. Topics covered include data acquisition, management, manipulation, and analysis, and cartographic output for applications of GIS in scientific and technological operations such as environmental assessment, analysis or natural hazards, site analysis for business and industry, resource management, and land-use planning. Through hands-on exercises and/or projects with related software packages, students will acquire basic skills in GIS. **4 Credit Hours**

GIS 202 Cartographic Design for Gis

This course provides a comprehensive study of GIS-applicable cartography including cartographic principles, data acquisition techniques, and methods of base map development. The course will include map projections, map scales, types of thematic maps, and map accuracy. Scanning, digitizing and coordinate geometry techniques used in GIS base map development will be introduced through hands-on exercises and computer-assisted mapping projects. **4 Credit Hours**

GIS 203 Remote Sensing-spatial Analyisi

The students will gain a theoretical background in remote sensing, covering such topics as remote sensing physics, data sources, visual images, image enhancement and filtering; geo-referencing; multi-spectral classification; data import and export; and GIS integration. Additionally, this course will provide the fundamentals of spatial information systems and quantitative techniques applicable to spatial data, including measures of central tendency, dispersion, and density. The course will also focus on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships.

6 Credit Hours