

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

Course Student Learning Outcomes (CSLOs):

1. Describe and analyze advanced geodatabase design, including spatial analysis, topology, model building, and automated geospatial processing.
2. Analyze and describe geographic information representation and use of GIS mapping software, addressing complex geographic information problems with GIS technologies and creating solutions.
3. Analyze and identify advantages and disadvantages of various geospatial information technologies, both advanced and basic.
4. Apply concepts, techniques, and software tools that are part of advanced Geographic Information Systems, with emphasis on GPS use and data transformation, geovisualization, geodatabase construction and design, data modeling, topology, advanced geospatial analysis, and case-study applications.
5. Apply intermediate geospatial knowledge, technologies, and techniques to create a map focused on a particular application, such as sustainability, site suitability analysis, and resource management.
6. Apply strategies for complex problem solving that include geospatial databases, including using GIS, GPS, geodatabase modeling, and automated geoprocessing.