

Geomatics 12

Unifying Concepts

Geomatics 12 will provide learning opportunities through which students become skilled, reflective, and critical creators and consumers of geomatics products. Specifically, students will

- A. develop a basic understanding of geomatics
- B. manage and manipulate data
- C. demonstrate an understanding of authentic applications of geographic information systems (GIS)
- D. apply knowledge and skills of GIS to query a social, political, environmental, or economic issue
- E. explore the career implications of geomatics
- F. be actively engaged in applying the geographic method of inquiry to a geomatics-based community project

Specific Curriculum Outcomes

Students will be expected to

Module 1: Exploration

- 1.1 investigate the definition and application of geotechnologies in the workplace and the range of career opportunities in geomatics
- 1.2 examine the historical evolution of geographic information system (GIS) software
- 1.3 identify a range of geotechnologies used to manipulate and assist in interpretation of data
- 1.4 demonstrate an understanding of the Geographic Method of Inquiry

Module 2: Basic Skill Building

- 2.1 demonstrate an understanding of GIS software buttons and tools for map creation
- 2.2 manipulate data to generate thematic maps
- 2.3 manipulate data to generate graphs, charts, or tables
- 2.4 query data to define and solve a problem
- 2.5 use layout functions to customize and display information
- 2.6 apply a hotlink feature to launch other media
- 2.7 apply geomatic skills to a social, political, economic, or environmental issue-based project

Module 3: Advanced Skill Building and Application

- 3.1 using various sources of geographic data, demonstrate data acquisition to create a theme layer
- 3.2 actively engage in collecting, geocoding, and mapping the community features
- 3.3 manipulate acquired data for querying using buffering, clipping, and joining
- 3.4 select and map the best site for a new home, business, or community service
- 3.5 map and analyze risk zones within a local community
- 3.6 identify authentic applications of a map or product

Module 4: Applied Geomatics Project

- 4.1 develop and document a project plan for an applied geomatics project
- 4.2 pose the geographic question
- 4.3 identify, evaluate, and acquire geographic resources
- 4.4 manipulate data to produce thematic representations or maps
- 4.5 analyze, synthesize, and summarize the geographic information
- 4.6 present, defend, and act upon project interpretations
- 4.7 develop an e-portfolio that documents their completed project
- 4.8 develop employability skills