

The Community College of Baltimore County

Course Outline

GEOA 110

Intermediate Geographic Information Systems

4 Semester Hours (3 lecture, 3 lab)

Description

Intermediate Geographic Information Systems (GIS) extends the initial Geographic Information Systems (GIS) skills developed in GEOA 101 into real-world situations enabling students to determine a specific objective, acquire data, incorporate the data in a GIS project, analyze the project and present results and conclusions. Open to students who have some GIS experience and wish to expand their skills. Utilizes primarily ESRI ArcView software.

Prerequisites: GEOA 101 or consent of instructor

Overall Course Objectives

Upon completion of this course the student will be able to:

1. describe the steps in developing a GIS project;
2. work with a non-GIS professional to determine a specific objective that can be fulfilled using GIS;
3. collect appropriate data;
4. identify inconsistencies, omissions and redundancies in data;
5. incorporate graphical information from various sources into a GIS project;
6. create point, line and polygon features;
7. apply attribute information to features using both native attribute tables and external data bases;
8. describe how Global Positioning System (GPS) equipment and techniques can be incorporated in a GIS project;
9. develop and apply Structured Query Language (SQL) and spatial tools for analysis; and
10. create charts and graphs from GIS data.

Major Topics

- I Objectives, functional versus GIS
- II Data collection plan development
- III Quality Assurance/Quality Control in a GIS project
- IV Base map sources and characteristics
- V Feature creation methods: points, lines and polygons
- VI Attribute information, storing and accessing
- VII Information generation from a GIS project
- VIII GPS data in a GIS project
- IX GIS project presentations to a non-GIS professional

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

- A. Exams: a minimum of 2 exams (mid-term and final)
- B. Quizzes: a minimum of 6 quizzes
- C. Map Projects and Presentations: a minimum of four graded map projects and 1 oral presentation

Writing: The individual faculty member will determine specific writing assignments.

Other Course Information

This course is a GEOA core course.

This course is taught in a computerized environment.

This course is the second course in a required five course sequence.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in this Outline.

3 lecture hours

3 laboratory hours