

Master Syllabus

GEO 1107 - Introduction to Geographic Information Systems (GIS)

Division: Liberal Arts, Communication and Social Sciences

Department: Geography

Credit Hour Total: 4.0

Lecture Hrs: 3.0 **Lab Hrs:** 2.0

Date Revised: January 2014

Course Description:

Introduction to the basic theoretical as well as practical concepts of Geographic Information Systems (GIS). Students will learn the basics of ArcMap and ArcCatalog and explore how these applications interrelate in a complete GIS software system. Through computer lab tutorials and homework assignments, students will learn to use ArcGIS. Three classroom, two lab hours per week.

General Education Outcomes:

- Written Communication
- Critical Thinking/Problem Solving
- Values/Citizenship/Community
- Computer Literacy
- Information Literacy

Course Outcomes:

Geodatabases

Demonstrate ability to store, organize, and work with different types of spatial data and convert them from one format to another and build spatial databases.

Assessment Method: Locally developed exams

Performance Criteria:

Students will be given multiple choice and/or short answer exams. Students must achieve a score of 70% or higher

Assessment Method: Portfolios

Performance Criteria:

Students will also be given projects and assignments to complete. Students must achieve a score of 70% or higher.

Spatial Analysis

Demonstrate ability to use spatial elements, measurements, locations and references to develop graphic and numerical awareness.

Assessment Method: Locally developed exams

Performance Criteria:

Students will be given multiple choice and/or short answer exams. Students must score of 70% or higher

Assessment Method: Portfolios

Performance Criteria:

Students will also be given projects and assignments to complete and must achieve a score of 70% or higher.

Digitizing and Map Creation

Demonstrate the ability to use ArcGIS to convert features on a paper map into digital format. Use ArcGIS presentation tools to create maps with associated map elements and demonstrate the importance of scale, resolution, accuracy, and map projections.

Assessment Method: Locally developed exams

Performance Criteria:

Students will be given multiple choice and/or short answer exams. Students must achieve a score of 70% or higher

Assessment Method: Portfolios

Performance Criteria:

Students will also be given projects and assignments to complete. Students must achieve a score of 70% or higher.

Geocoding

Demonstrate ability to transform a description of a location—such as an address, or a name of a place—to a location on the earth's surface and create maps.

Assessment Method: Locally developed exams

Performance Criteria:

Students will be given multiple choice and/or short answer exams. Students must achieve a score of 70% or higher.

Assessment Method: Portfolios

Performance Criteria:

Students will also be given projects and assignments to complete. Students must achieve a score of 70% or higher.

GIS & ArcGIS Desktop

Demonstrate fundamental knowledge of the theoretical and practical skills in Geographic Information Systems.

Assessment Method: Locally developed exams

Performance Criteria:

Students will be given multiple choice and/or short answer exams. Students must achieve a score of 70% or higher.

Assessment Method: Portfolios

Performance Criteria:

Students will also be given projects and assignments to complete. Students must achieve a score of 70% or higher.

Outline:

Displaying Spatial Data

Analyzing Spatial Data

Building Geodatabases

Geocoding

Digitizing

Editing Spatial Data