

Minnesota State University Moorhead

GEOS 307: Introduction to GIS

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Students will use Geographic Information Systems (GIS) techniques to acquire, adjust, extend, modify, integrate, analyze, map, and manage digital spatial data (both rasters and vectors) across space and time, using the standard ArcMap interface and extensions (especially 3D Analyst and Spatial Analyst) and customized toolboxes in ESRI's ArcGIS suite of software. This course builds on concepts introduced in the Thinking Spatially (GEOS 207) and Cartography (GEOS 210) courses and applies them to physical, biological, and social data within a GIS.

B. COURSE EFFECTIVE DATES: 02/27/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Import point, line, and polygon vector data and raster data into a GIS.
2. Identify different map projections and their appropriate uses.
3. Digitize new spatial data.
4. Edit and manipulate existing spatial data.
5. Select the best raster band combinations for optimum display of aerial photography with multiple bands.
6. Identify the key strengths and limitations of GIS.
7. Apply spatial thinking and solve spatial problems in a GIS.
8. Construct maps and display spatial data in a GIS based on cartographic principles.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted