

# Bemidji State University

## GEOG 2232: Techniques In Geographic Information Systems

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

A hands on approach to understanding both raster and vector based Geographic Information Systems.  
Prerequisites: GEOG 1224, GEOG 2231, or consent of instructor.

**B. COURSE EFFECTIVE DATES:** 02/13/2004 - 08/24/2014

### C. OUTLINE OF MAJOR CONTENT AREAS

1.    ¿ Reintroduce Structural Query Language, Geodatabases and attribute data management  
      ¿ Develop geographic representations using both raster and vector data  
      ¿ Spatial Data Input and Editing (aka digitizing)  
      ¿ Vector and Raster Data Models: spatial data analysis  
      ¿ Geometric Transformation and Georeferencing  
      ¿ GPS Use and Data Collection  
      ¿ If time permits
  - o Explore the use of Network Analyst
  - o Introduce TIN and DEMs
  - o Geocoding and Dynamic Segregation
  - o Introduce GIS modeling and 3D analysis

### D. LEARNING OUTCOMES (General)

1.    5. The student will develop a GIS vocabulary and be able to apply and use it effectively in a professional environment or future GIS courses
2.    The student will continue to enhance his/her understanding of the GIS System and Science through weekly assignments
  1. The student will continue to improve his/her proficiency using advanced GIS spatial analysis
  2. The student will continue to improve his/her skills in problem solving
  3. The student will be able to capitalize on a well-established understanding of cartographic principles to prepare quality geographic representation
  4. The student will continue to develop quality and transportable collaborative project management skills through the use of geodatabases

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted