

# 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