

Bemidji State University

GEOG 4265: Spatial Analysis

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

An examination in the concepts and application of advance spatial statistical methodologies. These include, kriging, spatial autocorrelation, spatial regression models, and cluster analysis. Prerequisites: STAT 2610 or PSY 3401 or BUAD 2231 and GEOG 3231.

B. COURSE EFFECTIVE DATES: 08/25/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Analysis of Variance
2. Data Transformation
3. Descriptive Spatial Statistics
4. Descriptive Statistics (Central Tendency, Measures of Dispersion)
5. Inferential Statistics
6. Multiple Sample Difference Tests
7. Non-parametric Statistics
8. Probability Mapping
9. Probability
10. Quantitative Approach in Geog.
11. Spatial Data
12. Spatial Patterns
13. Spatial Relationship: Correlation and Regression
14. Spatial Relationship: Multiple Regression

D. LEARNING OUTCOMES (General)

1. Become comfortable using statistical packages like Minitab, SPSS, and R.
2. Provide students with a strong background in advanced spatial analysis
3. To introduce students to the basic analytical frameworks of point pattern, lattice, and geostatistical analysis.
4. Learn about various spatial applications of regression models.
5. Understand spatial autocorrelation and how it both limits and enhances spatial models
6. Become familiar with the process of Kriging and other spatial interpolation methods.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted