M: Course Objectives / Learning Outcomes:

At the conclusion of the course the successful student will be able to:

1. Explain the role of quantitative information in geographic research and applications

2. Demonstrate an understanding of basic descriptive statistics and regression methods as they apply to problem solving in Geography

3 Perform basic data manipulation, statistical calculations and graphical presentation by hand, and using computer spreadsheets or statistical software (e.g. Excel, SPSS, R)

4. Evaluate the roles of probability theory and sampling distributions in drawing inferences about populations based on samples

5. Identify when and where statistical procedures are appropriate

N: Course Content:

1. Introduction
   - -quantitative geography
   - -statistics
   - -nominal, ordinal, interval data
   - -primary and secondary data
   - -measurement and collection of data

2. Visualization of data
   - tables, graphs and maps

3. Descriptive statistics
   - central tendency
   - variability

4. Spatial data analysis
   - areal and point data
   - directional statistics

5. Probability theory and distributions
   - random variables
   - discrete probability distributions
   - continuous probability distributions

6. Sampling and populations
   - types of samples
   - random sampling
   - sampling distributions
   - geographic sampling

7. Parametric inferential statistics
   - estimation
   - hypothesis testing
   - *t*-tests
   - confidence intervals
   - statistical significance

8. Nonparametric statistics
   - comparison of parametric and nonparametric tests
   - examples of nonparametric tests

9.

Q: Means of Assessment:

The evaluation will be based on course objectives and will be carried out in accordance with Douglas College policy. The instructor will provide a written course outline with specific evaluation criteria during the first week of classes.

Evaluation will include some of the following:
- Laboratory assignments with a combined value of up to 50%.
- Multiple choice and short answer exams with a combined value of up to 50%.
- A term project with a value of up to 25%.

An example of a possible evaluation scheme would be:

Laboratory Assignments	40%
Midterm Examination	25%
Final Examination	25%
Term Project	10%
	100%

Note: This course received a standing variance from Education Council in November 1999 to allow up to a 15% open book lab exam in the penultimate week of the semester. This is not a final exam; it is an assessment of student learning of lab work performed in the second half of the semester.

R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR

No.