**Instructor:** Yaser Samadi (ysamadi@siu.edu, 618-453-6502)

**Office:** Neckers 281

**Office Hours:** M W F, 2:00pm - 4:00pm, or by appointment.

**Meeting Hours:** M W F, 10:00pm - 10:50pm, EGRA,, Room 320

**Text:**


**Prerequisite:** Math 483 or Math 480.

**Course Objectives:** The theory and principles of statistical inference is presented. It provides justification for many statistical procedures routinely used in practice and discusses principles and theory that can be used to develop reasonable solutions to new statistical problems.

**Course Outline:** This course covers sufficiency and other principles of data reduction, completeness, ancillarity of a statistic, point estimation, methods of estimation, maximum likelihood method, evaluation of estimators, uniformly minimum variance unbiased estimation, Cramer-Rao inequality, efficiency, hypothesis testing, Neyman-Pearson lemma, uniformly most powerful (UMP) tests, likelihood ratio tests, monotone likelihood ratio family and applications to UMP tests, interval estimation, coverage probabilities, and confidence sets.
Grades: Grades will be based on the following scheme. Course grade will be assigned based on total points earned. Straight scale will be adopted to determine a +/- letter grade.

- Homework: 20%
- Quizzes: 20%
- Midterm Exams (2 exams, each 15%): 30%
- Final Exam: 30%

Homework: These will be assigned periodically, graded and returned.

Exams: Tentative Exam schedule is as follows: Exam 1 - Friday, February 26th; Exam 2 - Monday, March 28th; and the Final exam will be on Wednesday, May 11th.

Attendance: I expect you to attend every class, to arrive on time, and to participate in all class activities. Good attendance will be taken into account in borderline cases.

Notes: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
Last day to Drop with Refund: Sunday, January 31; Last day to Drop (Salukinet, no refund, resulting a W grade) Friday, April 1.