SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS (*Tentative*)
MATH 411/511 Design and Analysis of Experiments

INTENDED FOR: Students considering employment in areas of statistics. Students pursuing a concentration or minor in statistics.

OBJECTIVES: To gain knowledge for designing experiments and to learn the appropriate methods for analyzing the data collected from such experiments.

PREREQUISITES: At least one course in inferential statistics with a "C" of better (MATH 155, 213 or equivalent). MATH 313 or 314 is also preferred.

TECHNOLOGY: THIS COURSE IS COMPUTER DEPENDENT. MINITAB or SPSS will be used throughout the course.

TEXTBOOK: " Design and Analysis of Experiments," by Douglas C. Montgomery, 10th Edition.

		Weeks
Chapter 1&2	***Introduction & Simple Comparative Experiments***	1.0
Chapters 3	***Single Factor Designs & ANOVA***	3.5
Chapter 4	***Randomized Blocks & Latin Squares***	1.5
Chapter 5&6	***Factorial Designs***	3.0
Chapter 14	***Nested and Split-Plot Designs***	1.5
Chapter 13	***Experiments with Random Factors***	1.0
	Optional Topics	1.0
	Fractional Factorial Designs, Response Surface Methods	
	Tests	1.5
		14.0

EVALUATION

Homework, Quizzes, Boardwork, Projects 25%
Tests 50%
Final 25%

Writing Across the Curriculum

Writing will be a large component of this course. All data analyses must be accompanied by clearly written interpretations and conclusions.

The problem sets/projects will require graduate students to exhibit integrative thinking, synthesis, and analysis on material beyond the level usually expected of undergraduates.