SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
SYLLABUS *(Tentative)*
MATH 493/593 *Advanced Topics in Statistics:* ***Advanced and Multivariate statistical methods***

INTENDED FOR: Students considering employment in areas of statistics. Students concentrating or minoring in statistics.

OBJECTIVES: To gain conceptual and practical information regarding some advanced and multivariate statistical techniques

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

TECHNOLOGY: MINITAB and SPSS (computer software available in campus labs) will be used throughout the course.

TEXTBOOK: Advanced and multivariate statistical methods by Craig A. Mertler & Rachel A. Vannatta., 4th Edition, Pyrczak Publishing 2010 ISBN 1-884585-84-1.

		Weeks
	Review of descriptive and inferential statistics	1.0
Chapter 1-2	Introduction to Multivariate statistics	2.0
Chapter 3	Pre-Analysis Data Screening	0.5
Chapter 4-5	Univariate ANOVA and ANCOVA	2.0
Chapter 6	Multivariate ANOVA and ANCOVA	1.5
Chapter 7	Multivariate regression	2.0
Chapter 8	Path Analysis	1.0
Chapter 9-10	Prediction of Group membership	2.0
	Optional Topics	1.0
	Tests	1.0
		14.0

EVALUATION

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.

VXH/ar 10/2009