

## MGSC 690

### Course Syllabus

**Instructor:** Dr. Kathleen Whitcomb  
B.A. 707  
Phone: 777-2947 (W) / 788-2871 (H)  
Office Hours: M-Th, 10:30-12:00

**Text:** Calculus with Applications to the Management, Social, Behavioral, and Biomedical Sciences, Geoffrey C. Beresford. Prentice Hall

#### Course

**Objective:** To enable students to acquire the background in calculus and matrix algebra necessary to develop a thorough understanding of the analytic methods they expect to employ in their research.

Date	Topic	Chapter
June 3rd	Exponents, Functions, and Mathematical Models Limits and Continuity	1 2.1
June 4th	Definition of Derivative Rules of Differentiation	2.2 2.3
June 5th	More Differentiation Rules Higher-order Derivatives	2.4 2.5
June 6th	The Chain Rule Graphing Polynomial Functions	2.6 3.1-3.3
June 10th	Optimization	3.4-3.5
June 11th	Exponential and Logarithmic Functions and Their Derivatives	4.1-4.3
June 12th	Exam I	
June 13th	Integrals and Integration using Log and Exponential Functions	5.1-5.2
June 17th	Definite Integrals, Areas, and Applications	5.3-5.5

June 18th	Integration Techniques	6.1-6.4
June 19th	Multi-dimensional Calculus	7.1-7.3
June 20th	Exam II	
June 24th	Systems of Linear Equations	1.3
	Matrices and Matrix Operations	1.4
June 25th	Matrix Arithmetic	1.5
	Inverses	1.6
June 26th	Determinants	2.1-2.2
June 27th	More on Determinants	2.3
	Cramer's Rule	2.4
July 1st	Eigenvalues	6.1
	Eigenvectors	6.2
July 2nd	More on Eigenvalues/Eigenvectors	6.3
July 3rd	Exam 3	

### Course Policies

Homework will be assigned daily and is expected to be handed in for grading by the next class period. Homeworks will be assigned a grade of check, or a check-minus.

There will be three 60 minute exams administered in-class. Students will be permitted to refer to up to five sheets of formulas, reference notes, etc., to use during the exams.

The final grade will be determined as follows: homeworks 10%, each exam 30%.