MATH 151 - SYLLABUS

Calculus I — Fall 2001

Section	Professor	Time	Location	Class Days	Test/Review	Room	Time
1	M. Stark	8:00	SH 134	MWF	M	SH 132	6pm
2	Qazi	9:20	SH 134	MWF	W	SH 134	6pm
3	Bose	10:40	SH 132	MWF	W	SH 111	6pm
4	Sterling	12:00	SH 134	MWF	W	SH 109	6pm
5	Kung	1:20	SH 134	MWF	W	SH 132	6pm
6	Oh	1:20	SH 106	MWF	M	SH 111	6pm

Text:

Calculus I by Jerrold Marsden and Alan Weinstein

Content:

This is the first of a two-semester sequence in differential and integral calculus. In the first semester, the following topics will be covered:

Review: (1 week) Real numbers, absolute values, exponents, lines, circles and parabolas, and function and their graphs.

Derivatives and Limits: (2-3 weeks) Limits and derivatives, differentiation of polynomials, differentiation of products and quotients, linear approximations and tangent lines.

Rates of Change and the Chain Rule: (2 weeks) Derivatives as rates of change, second derivatives, chain rule, fractional powers and implicit differentiation, antiderivatives.

Graphing and Maximum-Minimum Problems: (2-3 weeks) Continuity, the Intermediate Value Theorem, increasing and decreasing functions, the second derivative and concavity, drawing graphs, max-min problems, the Mean Value Theorem.

Integrals: (3 weeks) Summation notation, sums of areas, the definite integral, the Fundamental Theorem of Calculus, indefinite integrals, applications of integrals

Trigonometric Functions: (2-3 weeks) Polar coordinates and basic trig, differentiation of trig functions, inverse functions, graphing in polar coordinates.

Exponentials and Logarithms: (2 weeks) Definitions of exponential and log functions, differentiation of exponential and log functions.

Classes: Class time will be a mixture of lectures, discussions, working problems, and group work. You should prepare for each class by reviewing the material already covered and by reading ahead in the text. In addition, you should work as many of the problems as possible - more than are assigned by your professor. In class, you should speak up with your questions and comments. If you need additional help, see your professor or your TA.

Attendance: You are expected to attend all classes (subject to the attendance policy outlined in the catalog).

Calculators: The use of calculators in class and on exams is up to your individual professor.

Make-Ups Exams: Make-ups will be allowed in emergency situations only. If at all possible, notify your professor of the emergency *prior* to the exam.