Math 16500 - Analytic Geometry and Calculus I
Course Content and Approximate Syllabus

Objectives

Students should gain a thorough understanding of the basic concepts of Calculus of one variable. This includes limits, derivatives of functions and their applications, the definition of the integral, the Fundamental Theorem of Calculus, and some applications of integration.

Textbook

Calculus, James Stewart, Brooks/Cole Publishing Co., Seventh Edition, 2010.
ISBN: 978-0-538-49782-4

This textbook will also be used in Math 16600, Math 17100, and in Math 26100.

Approximate Syllabus

The details of the syllabus, homework, and quizzes (if any) are up to each instructor. Typically three or more tests are given during the semester. A (common) departmental Final Examination for all students in Math 16500 is given the Saturday afternoon of the last full week of classes.

Week	*Chapter*	*Topics*
1	App. A, B, D Sec. 1.3	review of functions and models
2, 3	1	limits, continuity, precise definition of the limit of a function
4	1, 2	rates of change, slope of a tangent, definition of derivative
5, 6	2	rules for computation of derivatives
7	3	applications of derivatives, rates of change
8	3	graphing functions, extrema,
9	3	implicit differentiation, anti-derivatives
10	4	definition of definite integral
11	4	Fundamental Theorem of Calculus
12	4	computation of the definite integrals
13	5	application of integration to area
14	5	volumes of solids of revolution, work
15		review