MATH 150A
Intermediate Analysis I

Course Description
A study of the concepts and theory of single-variable calculus. Covers the basics of real numbers, sequences, limits, continuity, and differentiation.

Prerequisites
MATH 009C or MATH 005C or MATH 09HC with a grade of C- or better; MATH 010B with a grade of C- or better; or equivalent; or consent of instructor.

Textbook
Introduction to Analysis (5th Revised edition, 2009) by Edward D. Gaughan
ISBN-10: 0821847872

Suggested Lecture Schedule

Week #	Textbook Section(s)	Topic(s)
1	0.1, 0.2	Sets, relations, and functions
2	0.3, 0.4	Mathematical induction and recursion, equivalent and countable sets
3	0.5	The real numbers
4	1.1	Sequences and convergence
5	1.2, 1.3, 1.4	Cauchy sequences, arithmetic operations on sequences, subsequences, and monotone sequences
6	2.1, 2.2	Definition of the limit of a function, limits of functions, and sequences
7	2.3, 2.4	Algebra of limits, limits of monotone functions
8	3.1, 3.2, 3.3	Continuity and properties of continuous functions
9	4.1, 4.2	The derivative and algebra of derivatives
10	4.3 (if time permits)	Rolle's theorem, the mean value theorem, and applications