Math 554 Section 1 Course Outline

Spring 2005

Text : *Real analysis, A first Course*
Addison and Wesley, Second Edition
by: Russell A. Gordon

Professor : Anton R. Schep
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Email : schep@math.sc.edu
Web page : //www.math.sc.edu/~schep/math554-2005.html
Office hours : T-TH 10:30–12:00 (or by walk-in or appointment)
Tests : 3 one hour tests, each counting 20%, 1 Final exam counting 25%
Tentative test dates: February 16, March 23, April 20
HW+Quizzes : 15%
Homework assignments : //www.math.sc.edu/~schep/homework554-2005.html
Date of Final Exam : Monday, May 2, 9:00AM
Material to be covered : Chapters: 1, 2, 3, 4 , 5.
Topics:

1. Real Numbers. Completeness Axiom, Countable and uncountable sets.
2. Sequences. Cauchy and convergent sequences. Monotone sequences. Subsequences (including the Bolzano-Weierstrass theorem).
3. Limits and Continuity. Continuous functions. Intermediate Value Theorem. Uniform continuity. Monotone functions.
4. Differentiation. Mean Value Theorem.
5. Integration. Riemann integral. Fundamental theorem of Calculus.

One of the goals of this course is to provide the theoretical foundation of many results used in calculus. In calculus the emphasis is on how to calculate limits, derivatives and integrals, while here the emphasis will be on the definitions, theorems and proofs.
Make-up policy : No make-ups for missed homework or quizzes (lowest 2 or

3 scores will be dropped), make-ups for missed hourly tests or final will only be given if they were missed for legitimate reasons. In this case any effort should be made to contact me as soon as possible and you might need to provide documentation to support your reasons for missing the tests.

Attendance policy : A grade penalty can be invoked, if more than 10% of classes are missed.

Graduate Credit : Students in Math 703I or students taking Math 554 for graduate credit will have additional or some different questions on tests and quizzes.