

## Course Syllabus

840 MATH 387 - 01  
Real Analysis  
Dr. Goutziers  
Fall 2006

**Room:** Physical Science 128  
**Time:** MWRF 10:00 - 10:50 am  
**Office:** Physical Science 112  
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**Office** **M 09:00 am W 12:00 pm**  
**Hours:** **R 11:00 am F 11:00 am**  
**Textbook:** Introduction to Real Analysis

- *Author:* Manfred Stoll
- *Edition:* Second
- *Publisher:* Addison-Wesley
- *Copyright:* 2001
- *ISBN:* 0-321-04625-0

### ***College Catalog Description:***

**MATH 387 Real Analysis:** The real number system, sets, functions, sequences, Cauchy sequences, point set topology, continuity, uniform continuity, differentiability, the Riemann and Riemann-Stieltjes integral, series, convergence tests, sequences and series of functions, pointwise and uniform convergence. (LA)

*Prerequisite:* MATH 205 and MATH 276.

### ***Course Goals and Objectives:***

Math 387 provides an introduction to mathematical analysis. The course has two primary goals: The presentation of selected topics from calculus in a rigorous manner, and the development and cultivation of the students' abilities to work in an abstract setting with precise definitions and logical and complete proofs. The course prepares mathematics majors for graduate study in the field. The objective is to engage the students through collaboration in small groups on the solution of problems designed to illustrate the material. Historic references will be made where appropriate.

### ***Course content:***

Sets; Sequences, Cauchy sequences; Point set topology; Functions, continuity, uniform continuity; Derivatives, the mean value theorem; The Riemann integral, the Riemann-Stieltjes integral; Series of real numbers and series of functions, convergence tests, pointwise and uniform convergence.

### ***Methods of Evaluation and Grading Policies:***

There will be three tests and three quizzes during the course of the semester. Tests and quizzes will be announced on my web site at least four days in advance. A comprehensive final exam is scheduled for Monday, December 11, 08:00 am - 10:30 am, in Physical Science 128. Homework will be assigned daily and is due at the beginning of the next class meeting.

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Every week, one homework assignment will be chosen at random for critique and grading, it shall be returned on the following Monday. The remaining homework assignments will be judged as acceptable (full credit); marginal (half credit); or not acceptable (no credit), and returned during the next class meeting. Quizzes may be completed by groups of at most three students; tests and final exams are an individual responsibility. Students are encouraged to work together on the homework assignments. However, the final write-up of the solutions needs to be done individually. All submitted homework should include a coversheet indicating the course, the date, the assignment number, and the student's name. Homework assignments, quiz and test announcements, coversheets, and homework keys are published on my web site and updated daily.

Course grades are computed according to the following:

<b>Tests:</b>	<b>40%</b>	<b>90 - 100 A</b>	<b>77 - 80 B-</b>	<b>64 - 67 D+</b>
<b>Quizzes:</b>	<b>25%</b>	<b>87 - 90 A-</b>	<b>74 - 77 C+</b>	<b>60 - 64 D</b>
<b>Final Exam:</b>	<b>20%</b>	<b>84 - 87 B+</b>	<b>70 - 74 C</b>	<b>57 - 60 D-</b>
<b>Homework:</b>	<b>15%</b>	<b>80 - 84 B</b>	<b>67 - 60 C-</b>	<b>0 - 57 E</b>

***Attendance Policy:***

It is the student's obligation to take the quizzes, tests and the final exam at the scheduled times.

***Make-up Test/Quiz Policy:***

Make-ups will not be given. If a student misses a test/quiz, her/his grade for that test/quiz will be considered equal to her/his grade on the final exam.