

SYLLABUS: MATH480- Real Analysis I

TERM:Fall 2008

COURSE NUMBER AND TITLE:MATH480- Real Analysis I

CREDIT HOURS: 3

INSTRUCTOR: Dr. Micheal H. Vernon

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TEXTBOOK: A Friendly Introduction to Analysis, Kosmola

PURPOSE:

This course is a introduction to analysis of functions of real variables. It is designed to develop the students ability to think mathematically and to create and understand valid mathematical proofs. In addition to techniques and concepts specific real analysis, this course will help develop the writing and analytic abilities of students. Reading and writing assignments of various lengths will occur throughout the course. Students are encouraged to turn in assignments via email and to make inquiries through email.

COURSE OBJECTIVES:

Upon completion of this course, each student will be able to:

1. Prove statements regarding the convergence of sequences and series
2. Prove statements regarding the limits and continuity of functions
3. Prove statements regarding differentiability and integrability of functions
4. Prove statements regarding the topology of Euclidean spaces and normed vector spaces
5. Prove statements regarding metric spaces
6. Apply all the above to calculate the limits of power series and polynomial approximations to functions of real variables

NOTE: If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please make an appointment as soon as possible.

METHODS OF INSTRUCTION:

The instructor will utilize an average of 150 minutes of lecture/discussion per week. Homework will be assigned from each section covered. Students are encouraged to form study groups to work on the homework and to prepare for the midterm and the final exam.

Grading Scale:

- A: 85% - 100%
- B: 70% - 84%
- C: 55% - 69%
- D: 40% - 54%

All assignments will be available at <http://lochsa.lcsc.edu/ma480>. Be sure to visit this site frequently during the semester.

METHODS OF EVALUATION:

The student will be evaluated based upon the results of homework/presentations worth 300 points and a midterm and a final exam each worth 100 points. Attendance will be worth 1 per class day (30 points). Grades will be assigned based upon a percentage of points earned out of the total possible (530).

COURSE OUTLINE:

Chapter:	Title of Chapter
2	Sequences
3	Limits of Functions
4	Continuity
5	Differentiation
6	Integration
7	Infinite Series
8	Sequences and Series of Functions
9	Vector Calculus
10	Functions of Two Variables
11	Multiple Integration
Tuesday, Dec 16	Final Exam

Click [here](#) for the current schedule of lectures.