

Math 312 Section 2 - Spring 2009

REAL ANALYSIS

Instructor: Professor Anna L. Mazzucato
Office: 324 McAllister
Phone: 863-2036
Email: mazzucat@math.psu.edu
Web page: www.math.psu.edu/mazzucat/ (instructor's page)
www.math.psu.edu/mazzucat/math312/ (course web page)
Office hours: Wednesday 12:30-2 PM
Friday 1:00 - 2:30 PM

Class meets M W F 9:05 - 9:55 AM in 208 WILLARD.

COURSE DESCRIPTION: An introduction to rigorous analytic proofs involving properties of real numbers, continuity, differentiation, integration, and infinite sequences and series.

PREREQUISITES: You MUST have completed Math 141 to register.

TEXTBOOK (required): *Elementary analysis: the theory of Calculus* by Kenneth A. Ross, Springer

TOPICS. The aim of the course is to introduce you to Mathematics with proofs. We will study the basic concepts of Analysis and learn how to write a rigorous proof. The concepts we will learn are very important, but it is more important to understand how to read and write a proof correctly. This skill is useful outside of Mathematics as well. We will review Chapter I and cover Chapters II, III in detail. We will also cover additional topics from the remaining Chapters IV, V, and VI. We will generally skip the starred sections in the book.

COMMENTS: The course is challenging and you MUST devote to it adequate time and attention, by coming to class regularly, keeping up with reading and homework assignments, taking advantage of office hours. I expect every student to come to each class period. If you cannot come to class, you are responsible for the material covered in class and any course assignment. If you fall behind, DO NOT WAIT. Come to office hours immediately. If you fall too much behind, it will be very difficult for you to complete the course successfully. Consistency in course work will pay off however.

I expect that you read the textbook carefully after each class periods. In fact, it is best to read the book before coming to class. I welcome questions both during and outside class. ALL questions are very useful to both the instructor and the students. I also welcome general feedback about the course. An anonymous feedback form is available on the course web page.

You are responsible for reading and understanding this syllabus. Changes to the syllabus will be announced in class and/or posted on ANGEL and the course web page.

ASSIGNMENTS: There will be weekly homework, consisting of problems usually taken from the textbook. I will assign the homework throughout the week and collect it the following MONDAY. The homework is due IN PERSON, IN CLASS. Your two lowest homework scores will be dropped. NO LATE HOMEWORK will be accepted.

There will be weekly quizzes usually ON FRIDAY. Your lowest homework score will be dropped. MISSED QUIZZES CANNOT BE TAKEN AT A LATER DATE.

There will be two in-class midterms, and a comprehensive final exam. I will administer make-up exams ONLY for valid excuses, such as documented illness or University-sponsored activities. In such instances, you are to CONTACT ME IN ADVANCE.

Assignments, solutions and any additional course material will be posted on ANGEL.

The midterm exams are tentatively set for the weeks of February 23-27 and April 6-10.

GRADING: The grade for the course is based on a total of **450 points**, as follows:

- **Midterms:** 100 points each
- **Final Exam:** 150 pts
- **Homework:** 60 pts, **Quizzes:** 40 pts

Your grade will be based EXCLUSIVELY on the midterm examinations, homework/quizzes and final examination. **There is no extra-credit work.**

Final grades will be assigned on a 10-point scale (for example, %90 =A, %80=B)

POLICIES: Collaborations on homework problems is allowed and encouraged, but you must turn in INDIVIDUALLY written solutions. Solutions to homework that are nearly identical will receive no credit. NO **collaboration**, as well as **personal notes** or the **textbook** are allowed during quizzes and exams. You MAY NOT use **calculators**.

It will NOT BE TOLERATED that students arrive late, leave class early, or disrupt class in any way. I will make all efforts to start and finish class on time. Please, discuss any logistic problem with me. **Cell Phones** must be TURNED OFF at all times.

Academic Integrity: "Academic dishonesty includes, but is not limited to, cheating, plagiarizing, . . ., facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with academic work of other students. . . . A student charged with academic dishonesty will be given oral or written notice of the charge by the instructor. If students believe that they have been falsely accused, they should seek redress through informal discussions with the instructor, the department head, dean or campus executive officer. If the instructor believes that the infraction is sufficiently serious to warrant the referral of the case to Judicial Affairs, or if the instructor will award a final grade of F in the course because of the infraction, the student and instructor will be afforded formal due process procedures." From Policies and Rules, Student Guide to the University Policy 49-20. Based on the University's Faculty Senate Policy 49-20, a range of academic sanctions may be taken against a student who engages in academic dishonesty.