

Math 25 — Course Syllabus

General information

- **Instructor:** Dr. Dan Romik
- **Lectures:** MWF 9:00-9:50 at Wellman 216
- **Discussion sections:**
 - A01 (Andrew Farris) T 4:10-5:00 at Olson 147
 - A02 (Tim Wertz) T 5:10-6:00 at Wellman 115
- **Course web site:** (for news, announcements, information on office hours etc.)
<http://www.math.ucdavis.edu/~romik/teaching/mat25-2011.html>

Course description

The course has two main goals: the first is to give an introduction to the mathematical subject of real analysis, which is the study of real numbers and the properties of real-valued functions, sequences and series. This has some overlap with topics that you learn about in the 21-series calculus classes, but here the focus is more on attaining a deep understanding of fine properties of the real numbers and their interconnections (e.g., how to tell if an infinite series of numbers such as $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots$ converges or diverges, and what such a statement means exactly), rather than learning a practical skill such as how to compute integrals.

The second goal of the class is to serve as an introduction to abstract mathematical reasoning and the art of reading, writing and understanding rigorous mathematical proofs. Real analysis serves as the backdrop and “training material” for this set of reasoning skills, but they are quite general and will serve you well in life.

Textbook

The course will follow the textbook *Elementary Real Analysis, 2nd Ed.* by B. S. Thomson, J. B. Bruckner and A. M. Bruckner. The particular sections of the book that we will discuss and the order in which we will cover them can be found in the Math Department’s standard syllabus for the class, which can be accessed at the web address

<http://www.math.ucdavis.edu/courses/syllabi/mat25.html>

I will announce any deviations from this syllabus, which in any event will be minor.

The textbook can be purchased at the bookstore and can also be downloaded as a PDF file from

<http://www.youpublish.com/files/5392/TBB-Elementary-Real-Analysis>

In this address you will find a free PDF version, which contains content identical to the paper edition but with the pages formatted differently, and a full PDF version that is identical both in content and formatting to the paper edition and costs \$1 to download. Please be respectful of the authors' rights and hard work and do not share the paid file with your friends.

Homework, exams and grading

The final course score will be a weighted average of the following components:

- **Homework**, to be assigned weekly and submitted the following week to your TA during discussion section — **30%** of the grade.
- A **midterm exam**, to be held on **Monday, May 2** at the normal lecture time and place — **30%** of the grade.
- A **final exam**, to be held on **Monday, June 6** at 8:00-10:00 — **40%** of the grade.

Exams will be closed-book exams, with no written material or electronic devices allowed. The translation of the final course score to a letter grade will be decided at the end of the quarter, but the following are lower bounds on the letter grade cutoffs:

90% or higher guarantees you an A-.
80% or higher guarantees you a B-.
70% or higher guarantees you a C-.
60% or higher guarantees you a D-.

Course policies

Late homework. Late homework will not be accepted except in case of a documented illness or other documented and uncontrollable event of similar type.

Make-up exams. Missing the midterm will lead to a grade of 0 except in the case of a documented illness or other documented circumstances beyond your control. If you are unable to attend the midterm, let me know immediately. In case of a justifiable absence I will either arrange a make-up exam or, at my discretion, compute your final course score based on the other grade components.

Ethics policy. You may work on the homework collaboratively with your friends, but the work that you hand in **must be written in your own handwriting (or typed by you), in your own words, and you represent that you understand everything you wrote.** You are also expected to conform to the campus Standards of Conduct and Code of Academic Conduct. Any student caught cheating or otherwise violating these standards will be referred to Student Judicial Affairs for disciplining.

Students with disabilities. If you are a student with a mental or physical disability, you may be entitled to certain accommodations such as extended time on exams. Please contact the Student Disability Center (<http://sdc.ucdavis.edu/>) to ask for such accommodations or for more information.