

Syllabus for Math 444 E13 (70920) and X13 (38024), Spring 2022

Time and place: X13: MWF 12-12:50, 241 Altgeld; E13: MWF 1-1:50, 445 Altgeld.

Instructor: Timur Oikhberg. *Office:* CAB 33. *e-mail:* oikhberg@illinois.edu

When writing an email, please use your illinois.edu account whenever possible.

Moodle page: <https://learn.illinois.edu/course/view.php?id=65518>

Office hours: *MW 2:30-3:45*, You can either come in person, or connect via zoom:

<https://illinois.zoom.us/j/84102435535?pwd=N2w0aElrQm93d3U5c2hBbXBpTFIKZz09>

If you cannot make it during regular office hours, please email for an appointment.

Topics covered: This course is an introduction to ϵ - δ analysis for students who do not plan graduate study in mathematics (those students should take MATH 447).

Graduate students can take this course for four credit hours. In this case, they need to work on an extra project (the guidelines will be posted on Moodle).

Prerequisites: MATH 241; MATH 347 or MATH 348, or equivalent courses.

Textbook: Robert G. Bartle and Donald R. Sherbert, *Introduction to Real Analysis*, 4th edition, Wiley, 2011. Unfortunately, this book is not available at the UIUC library; one can buy or rent it from [Illini Union Bookstore](#).

We will skip some sections, and will cover some material not in the textbook. Slides will be posted after each lecture. The information discussed in class will be part of the examination material.

Assignments and grading

Midterms: There will be three in-class midterm exams: **March 2**, **April 6**, and **April 27** (*Wednesdays*). The weakest midterm score will be worth **10%** of the total grade, the other two - **20%** each.

Final: The comprehensive combined final (worth **30%** of the course grade) will be given during the finals' week (May 6-13). The exact time and place will be announced later. Do not make plans to leave town until Saturday, May 14. Final exam conflicts will be resolved following the guidelines set out in the Student Code (<https://studentcode.illinois.edu/article3/part2/3-201>).

Homeworks: Homeworks (10 total) will be assigned on Wednesday every week, except for the weeks of the exams, and the last week. Usually, they will be due on Wednesday the following week. For instance, Homework 1 is assigned on Wednesday Jan 19, and is due on Wednesday Jan 26.

Homeworks are to be submitted via Moodle. You can either type your homework, or write it by hand. Be sure your homework is neat and legible.

The two weakest homework scores will be dropped. Only the 8 best scores will be used to compute the grade for the course. Homework is worth **20%** of the cumulative grade.

Homework assignments will consist primarily of writing mathematical arguments and proofs; the validity of the mathematical reasoning and the quality of the exposition will both count toward the grade.

Not all homework problems will be given the same weight. Bonus problems will be included in some homework assignments.

Grade components: *Homeworks:* 8 x 2.5%. *Midterms:* 2.5 x 20%. *Final:* 30%.

Letter grades: 90% guarantees an A, 75% - a B, 60% - a C, and 50% - a D. An upward “curve” may be given (depending on overall performance of the class, the level of difficulty of tests, and the distribution of scores), but this will not be decided until end of the semester.

Policies

Excused assignments and make-ups: To make up a test, or to have a homework or in-class exercise excused, you need to present a valid reason for missing the assignment (such as an illness, a death or serious illness in the family, a religious observance, or an out-of-town job interview). Travel and leisure plans, even for family events, are never a legitimate reason for missing an assignment. Evidence of a valid reason for missing an assignment must be presented as soon as possible (if a conflict can be predicted, let me know at least one week in advance).

Calculators: You may occasionally need a calculator for a homework. Even then, you would not need a fancy graphing calculator. A basic model will do. Exams will not require lengthy computations.

Collaboration: You can work with other students on homework problems. However, you should write the solutions on your own. No collaboration on tests is permitted.

Cheating or plagiarism may result in a failing grade. Please review the academic integrity policies at <https://studentcode.illinois.edu/article1/part4/1-401/>.

Academic deadlines: Information about academic deadlines, and about the class schedule, can be found at <https://registrar.illinois.edu/academic-calendars/spring-academic-calendar-22/> or at https://senate.illinois.edu/academic_calendars/2021-2022.pdf. Some important dates:

- Deadline to drop the course without grade of W: Fri Mar 11 (for most courses).
- Last day of instruction: Wed May 4.

Note that these are University-wide deadlines. Individual schools and departments may have more stringent sets of rules.

Students with disabilities who require special accommodations should contact me as soon as possible. I also encourage getting in touch with [Disability Resources and Education Services](#) (DRES). Please contact DRES at least one week prior to the exam by phone (217-333-4603) or by email (disability@illinois.edu).