Syllabus for Math 444 B13 (66403) and X13 (32129), Fall 2020

Instructor: Timur Oikhberg. *e-mail:* oikhberg@illinois.edu
When writing an email, please use your *illinois.edu* account; indicate your course and section.
Moodle page: https://learn.illinois.edu/course/view.php?id=50841
Zoom office hours: Monday, Wednesday 8-9am; Tuesday 4-5pm; or email to schedule 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; 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.

Course format: Lectures will be recorded, and posted on Moodle three times a week (Monday, Wednesday, Friday morning, or in the afternoon the day before). Lectures and office hours will not be held on the day of the exams.

Midterms: There will be three midterm exams: **October 7**, **November 4**, and **December 2** (*Wednesdays*). The weakest midterm score will be worth **10%** of the total grade, the other two - **20%** each. Midterms will be administered through Moodle; each test will be open for at least 36 hours. Tests will be monitored using Proctorio; please install Google Chrome.

Final: The comprehensive final (worth **30%** of the course grade) will be on **Monday December 14**. Access to the test will be open for at least 36 hours. Once you start, you will have a 3-4 hour window (the exact length will be determined later) to complete the test. Final exam conflicts will be resolved following the guidelines set out in the Student Code (https://studentcode.illinois.edu/article3/part2/3-201/).

Homeworks: Homework (10 total) will be assigned on Wednesday every week, except for the weeks of the exams, and the last week. Usually they will be collected on Wednesday the following week. For instance, Homework 1 is assigned on Wednesday August 26, and is due on Wednesday September 2.

The two weakest homework scores will be dropped. Only the 8 best scores will be used to compute the grade for the course.

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

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.

Homework Rules: You can either type your homework, or write it by hand. Upload the file on Moodle. Be sure your homework is neat and legible.

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 in advance, let me know at least one week in advance). In case of religious observances, complete the form https://odos.illinois.edu/community-of-care/resources/students/religious-observances/

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/fall-2020-academic-calendar/ or at https://senate.illinois.edu/ep/Props/1415/FINAL/EP15.08final.pdf. Some important dates:

- Deadline to drop the course without grade of W: Fri Oct 16 (for most courses).
- Last day of instruction: Wed Dec 9.

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).