

Math 311, Section 03: Introduction to Real Analysis I

Instructor: Kristen Hendricks

E-mail: kristen.hendricks@rutgers.edu

Office Hours: Monday 3:30-4:30 and Wednesday 9:00-10:00 over Zoom via Canvas Integration.

Workshop Instructor: Rory Martin-Hagemeyer

E-mail: rm1279@scarletmail.rutgers.edu

Office Hours: TBA

Non-Canvas Website: www.math.rutgers.edu/~kh754/Math311. Most course content can be found both here and on Canvas.

Location and Time: Lecture MW 1:40-3:00 over Zoom via Canvas Integration; Workshop Th 1:40-3:00 over Zoom via Canvas Integration. Lecture will be recorded and the notes and videos will be made available on canvas promptly.

Content: This course is a rigorous introduction to analysis on the real line, and covers sequences, types of subsets of the real line, limits, continuity, and derivatives. It will focus on building skills for reading and writing proofs.

Textbook: S. Abbott, *Understanding Analysis*. Second Edition. Available free of charge to Rutgers students through [SpringerLink](#).

Prerequisites: (Math 244 or Math 252 or Math 292) and (Math 300 with a grade of C or better).

Homework: Homework will be assigned weekly and due on Wednesday at 1 pm via Canvas Assignments, except for the last assignment, which will be due on Monday May 3 at 1 pm. There will be thirteen homeworks in total. **No late homework will be accepted.** However, your lowest two homework scores will be dropped when computing your grade.

A brief primer on LaTeX will be made offered during the first workshop meeting for those who would like to typeset their homework solutions.

Typically three homework problems will be graded carefully, and some points will be given for completeness of the rest of the assignment. Homework solutions will be posted online promptly.

You are encouraged to work in groups on your homework. However, you must write up all solutions yourself. Moreover, since crediting your collaborators is an important element of academic ethics, you should write down with whom you worked at the top of each assignment. You must also cite any sources you use other than the lecture or the textbook (other textbooks, a blog about analysis, Mathematics Stack Exchange, etc.) You should not consult Chegg or other paid homework solutions sites.

Quizzes and Exams: There will be a thirty-minute quiz on **Monday, February 8** and two sixty-minute midterm exams on **Monday, March 1** and **Monday, April 12**. There will also be a final exam scheduled by the registrar. Exams will be taken closed book and closed notes. After you take an exam, you will be asked to record and submit a video of yourself explaining one of your solutions for purposes of exam

verification. If you miss an in-class examination for a documented good reason (such as serious illness or other comparable emergency), your final will count for a larger percentage of your grade accordingly. Make-up finals will only be given in extreme and documented circumstances.

Grading: Grades will be computed as follows:

- Homework: 20%
- Quiz: 10%
- Midterms 1 & 2: 20% each
- Final: 30%

A reasonable curve will be applied to the composite numerical scores. The bar for an A will not be set higher than an overall 90% in the course.

Schedule: We will cover Chapters 1-5 of Abbott, essentially linearly. Precise reading for each week will be provided as the course goes on. You will get the most out of lecture if you do the reading *before* coming to class.