

MATH 3110: SYLLABUS

Instructor. Zach Norwood (zn54)

Office hours. Mondays (10:00 + ϵ)–11:30 and Wednesdays 2:30–(4:00 – ϵ) in Malott 591.

TA. MingYi Wang (mw929)

TA office hours. Mondays 12:30–2:30pm in Rhodes 657, Room 1.

Meeting times. MWF 9:05–9:55am in Rockefeller 102.

Textbook. *Understanding Analysis* by Stephen Abbott. Search for the title on the Cornell library's webpage to get a free PDF through SpringerLink.

Course webpage. <http://www.math.cornell.edu/~zbnorwood/3110-s19/>

Course description. Math 3110 should serve as an introduction both to rigorous mathematical reasoning and to the ideas of real analysis, i.e., theoretical calculus. We will give a rigorous treatment of concepts like limit, convergence of sequences and series, and compactness and will give careful proofs of many of the theorems of single-variable calculus, including the Mean Value Theorem and the Fundamental Theorem of Calculus, for example. Much of the material will be familiar, but the emphasis will be on thinking about familiar concepts from calculus with the precision of mature mathematicians.

Goals. We have two primary goals in this class:

- (1) to recognize and be able to produce precise, clear mathematical arguments;
and
- (2) to become proficient with the basic tools of real analysis.

In view of Goal (1), the clarity and readability of students' solutions will be graded, in addition to their completeness and correctness.

Exams. There will be two prelims and one final exam. The prelim times and locations will be announced in class well in advance.

Date: Spring 2019.

Homework. Homework will be assigned weekly, with a few exceptions, and will be due on Wednesday evenings unless otherwise indicated. Homework can be neatly handwritten or typed (preferably with \LaTeX) but in either case should be submitted electronically to Gradescope as a PDF before the deadline.

You are encouraged to collaborate on homework, but each student must write his/her own set of solutions in his/her own words. You should list your collaborators at the top of your completed homework.

No late homework will be accepted, but the lowest homework score will be dropped.

Grading. Your final grade will be computed according to the following scheme.

- 40% Homework
- 15% Prelim 1
- 15% Prelim 2
- 30% Final exam