

MA 440-1M/MA 540-1M Advanced Calculus I

Fall 2023

Instructor: Zoran Grujic

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Office: UH 4051

Lectures: MWF 15:35 – 16:25, UH 2010

Office hours: W 10:00 – 12:00, UH 4051

Exams: a midterm on Friday, October 6 (during the regular class-time), and the final on Monday, December 4, 13:30-16:00

Homework: the problems will be posted on Canvas and the solutions collected in class

Presentations: each student will present several detailed proofs over the course of the semester

Grade: homework 20%, presentations 20%, midterm 25%, and the final 35%

Text: *Understanding Analysis*, 2nd ed by Stephen Abbott, Springer

The main goal of this two-semester sequence (MA 440/540, MA 441/541) is developing the craft of writing mathematical proofs, illustrated on the concepts familiar from calculus.

MA 440/540 will cover the Real Numbers, Sequences and Series, Basic Topology of the Real Line, and Functional Limits and Continuity, while MA 441/541 will cover the Derivative, Sequences and Series of Functions, and the Riemann Integral (the topics correspond to the chapters in the text).