

## Advanced Calculus I

Math 4143.1 MSCS 422 MWF 10:30 – 11:20

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Office Hours: M 3:30 – 4:30, W 2:00 – 3:00, R 1:00 – 3:00  
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The textbook is the Dover edition of Introduction to Analysis by Maxwell Rosenlicht. We shall review Chapters I and II as necessary, and then cover as much of Chapters III-VIII as time allows. The textbook will be supplemented by notes in order to provide a more thorough treatment of certain topics.

The course will focus on some of the basic structures and methods of analysis. The discussion will at times be abstract and axiomatic, but familiar objects from calculus will furnish examples and applications of the more general material. The starting-point is somewhat flexible, but it is probably necessary to have some prior experience with writing proofs, roughly at the level of the course “Introduction to Modern Analysis.”

There will be regular homework assignments, worth 50% of the grade in total, and two preliminary exams, worth 25% each. In pre-finals week, I will report your grade based on this work. A final exam will be offered to any student who requests one. If taken, the final exam can only improve your grade, and will only do so if you make a higher grade on it. That is, if the final exam counts at all then it counts for 100% and replaces your previous score. If necessary, the final exam will be held on Monday, December 13 from 10:00 – 11:50. I will follow the 90%/80%/70%/60% system for assigning letter grades.

Successfully completing the homework should be viewed as the single most important activity for success in the course; it will demand a large and unpredictable commitment of time each week. You should begin to think about each homework problem as soon as possible, since insight and creative problem-solving cannot be rushed. Homework solutions will be graded for clarity and appropriateness of expression as well as for correctness. The preliminary exams are likely to have an out-of-class component as well as an in-class component.