## Math 320 Real Analysis I Spring 2021

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## Text: Understanding Analysis by Stephen Abbott, 2<sup>nd</sup> edition (this is available electronically from our library)

**Content:** The goal of this class is to gain a deep understanding of limits and continuity, sequences and series of numbers, and sequences and series of functions. We will concern ourselves with real numbers, and will aspire to discuss the material in Chapters 1 through 6 of Abbott's text. This class is an intensive proof-writing class. It is expected that you are already familiar with the basics of writing proofs, and your ability to logically and coherently write up proofs will impact your grade.

**Course Structure and Workflow:** There are several pieces to this course. Each sort of assignment plays a role in helping you absorb the material into the framework of your own knowledge. The workload in this class is comprised of:

**Problem Sets: 45%** This is the practice part of the course. Most of us do not learn by watching; we learn by doing. Problem sets provide a forum for discussion of the material and a means of expanding on the concepts introduced in class as well as practice in communication. The problem sets will be assigned weekly, and selected problems will be graded. The work you submit, like a finished essay, should be well written and legible (and in order). The correctness of the problem as well as the communication of the solution are both important pieces of how well your work is received. Please note that while collaboration is acceptable on homework assignments, collaboration refers to talking about problems and does not include copying solutions or writing solutions together. Late problem sets will not be accepted.

Quizzes: 0% There should be quizzes! Quizzes are meant to provide motivation for keeping up with definitions, basic ideas, and are meant to provide opportunities for quick feedback. Likely I will sometimes post suggested quizzes for you to use as a self-test.

**Engagement: 15%** In recognition that learning involves active engagement, 15% of your final grade will be determined by your active, sustained participation in our pedagogical efforts. That includes attending class, doing the reading, asking questions, completing any motivational quizzes that are assigned, and will heavily depend on several short class presentations you will give.

Exams: 40% There will be a midterm on Wednesday of Week 5 and final exam. This is where you show off your understanding of concepts AND written communication skills. The exams will each determine 20% of your final grade. Please note the final exam, as scheduled by the Registrar, is Tuesday, June 8, 8:30-11am. Both exams are expected to have a short written portion given during the assigned time, as well as an oral component which will be scheduled individually for that day or an adjacent day.

**Online Etiquette:** During our Teams class meetings, please **turn ON your video** and **turn OFF your microphone** until you wish to speak. Note that you can change the background of your video feed; just make sure you choose something that is not too distracting to the rest of us. Please **DO** speak up freely to ask questions. This *is* class. Don't stand on ceremony as you would in a formal meeting. The only reason mics are off in general is to eliminate grating audio feedback. There will be **NO recording** of class meetings - by anyone. You wouldn't be allowed to record if we were in the classroom, and now this is our classroom. People should feel free to speak without worrying that the questions they ask will remain in the ether.

Of course, if there is a particular accommodation that needs to be made, say in accordance with a documented disability, this will be done; please speak with me.

**Honor Code:** As a student at Kalamazoo College, you have pledged to uphold the Honor Code. This includes reporting to me any dishonorable behavior you know about involving this class, as well as not engaging in such behavior yourself. Any assignment found to have been submitted in violation of the honor code will receive an automatic F, and the infraction will be reported to the Dean of Students.