

SPRING 2016 MATH 3200 COURSE SYLLABUS

PETE L. CLARK

Course: Math 3200: Introduction to Higher Mathematics

Instructor: (Associate Professor) Pete L. Clark, Ph.D.

Lectures: MWF 9:05 - 9:55, Hardman 101

My Office: Boyd 502

Office Hours: MWF 2-3pm and by appointment

Midterm Withdrawal Deadline: Tuesday, March 22

Final Exam: Wednesday, May 4, 8 am - 11 am, Hardman 101

Course text: *Mathematical Proofs: A Transition to Advanced Mathematics* by Gary Chartrand, Albert D. Polimeni and Ping Zhang, 3rd edition. The text is required, and most of the homework problems will be assigned out of it.

Topics Covered: We wish to cover the first 10 chapters of the course text, which can roughly be grouped into three parts:

Part I: Languages of mathematics: English, sets, logic. (Chapters 0, 1 and 2)

Part II: Techniques of proof (Chapters 3-7)

Part III: Further foundations for advanced mathematics: relations, functions, cardinalities of sets (Chapters 8-10)

If we end up with time left at the end, we will probably look at Chapter 13: Proofs in Group Theory, but I am not aiming to finish early. This is the sort of course in which it is much more important to thoroughly learn a small set of topics rather than to see a little bit of many different things.

Course grade:

3 midterm exams, for a total of 50%

homework, 20%

class attendance, 5%

final exam, 25%

Tentative approximate times for the three midterm exams:

First midterm exam: Covers Chapters 1-3, circa February 15

Second midterm exam: Covers Chapters 4-7, circa March 15

Third midterm exam: Covers Chapters 8-10, circa April 25

The midterms will be *cumulative*, in the sense that you will always be responsible for previously learned material. (Mathematics is almost inevitably cumulative). But you can expect an emphasis on the most recent material covered, as indicated

above. The final exam will be comprehensive.

More on homework:

When we start a chapter, I will tell you which homework problems at the end of that chapter I want you to work on. This may be a rather large list. Then, sooner before the homework is due, I will give you a smaller list of problems to turn in. These will be graded by the course grader.

Also, in most weeks there will be a small number of problems which I will grade myself. These problems give you an opportunity to practice your writing and language skills even more intensely. Accordingly, I require that these problems be **typed**. The best thing for you in the long run would be to use the mathematical typesetting program LaTeX (freely available in many forms on the internet), which however takes some time to get used to. I would be more than happy to show you how to set up LaTeX on your computer and demonstrate how it works.

You are encouraged to discuss the homework problems with other students in the course. Learning to explain clearly your own reasoning and understand the reasoning of others are closely related to the goals of our course. However, you should make sure that your written work is your own and is independent of that of other students. A good rule of thumb is to talk about your work with others, write on the blackboard, and take notes from these discussions as needed, but not to look directly at the writeups of the other students.

The Mandatorium: I have been informed that *all UGA course syllabi* must contain the following paragraphs:

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, A Culture of Honesty, and the Student Honor Code. All academic work must meet the standards described in A Culture of Honesty found at: www.uga.edu/honesty. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.