

MATH 310 - SPRING 2012

Instructor: Kate Truman

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Office Hours: 9:30-9:55 MWF and by appointment

Course Web Page: <http://www.math.umd.edu/~rendke/Math310/>

The webpage is the definitive source for up to date information about the class.

Classroom and Time: MTH B0421 MWF 10:00-10:50

Text: *Mathematical Proofs* by Chartrand, Polimeni and Zhang, 2nd edition

Recommended: *Advanced Calculus* by Fitzpatrick, 2nd edition, AMS

Prerequisite: Math141

Corequisite: Math241 Please note that Math240 is also a prerequisite for Math410.

Math310 is designed to be a lead in course to Math410 (Advanced Calculus). The goal is to introduce you to introductory theoretical material and review some calculus with proof, so that you will be able to succeed in Math410. The majority of the course will be spent on introducing the theory of mathematics. You will learn different methods of proof and how to apply each technique to different situations. This course should not only prepare you for Math410, but also prepare you to study theoretical mathematics in any area. Approximately one third of the course will be spent reviewing some introductory calculus material with proof. We will discuss sequences in more detail as well.

Grading:

1 in-class Mini-Exam (50pts)	50 points
4 in-class Exams (75 pts each)	300 points
16 Homeworks (20 pts each)	260 points (drop 3)
16 Quizzes (10 pts each)	140 points (drop 2)
Final Exam	150 points
Total	900 points

Rough Schedule: We will cover Chapters 0 through 10 and 12 of Chartrand, Polimeni and Zhang, as well as parts of Chapters 1, 2 and 3 of Fitzpatrick. The tentative exam dates are given

- Mini-Exam: Chapters 0–2: February 8th
- Exam 1: Chapters 3–6: February 29th
- Exam 2: Chapters 7–10, Pigeon Hole Principle : March 30th
- Exam 3: 12.1 of Chartrand and Chapters 1–2 of Fitzpatrick: April 20th
- Exam 4: Chapters 2 and 3 Fitzpatrick: May 7th

Homework 1 is due January 30th and you will have a Quiz on Chapter 0 that day.

Final Exam: The final exam is Friday, May 18th, 8:00am–10:00am, in our class room. The final exam is cumulative, but usually emphasizes the third and fourth exams.

Homework and Quizzes: I *encourage* you to work in groups on the homework assignments. Homework will be assigned daily, and collected approximately weekly (or slightly more frequently). Recently, the solutions manual has been available to download online, though probably not legally. Because of this you will have two types of problems assigned, textbook problems - not collected - and a set of questions I make up that I will collect (which may on occasion include a book problem or two). The problem sets will be handed out in class and appear on the class website in PDF format. All problems from the collected set must be turned in, but only selected questions will be graded (for correctness). **The questions must be done in order and no more than two problems per side of each page.** (So no more than 4 per page.) **You must cite everyone you work with on the homework, including tutors.** Each page must include your name and it would be best to staple your pages together. Even though I will not collect book problems, I will expect that you understand them for quizzes and exams. All odd problems have solutions in the back of the text. You should only look at the solutions if you are really stuck and try to only look as far into the solution as you need.

Late homework will not be accepted, except in extreme cases.

Quizzes will be on the day following homework collection date (on the homework collected) and days before exams (on all material since the last exam). Exam and Quiz questions will be similar if not identical to homework questions. Definitions, Theorems, proof processes and other major ideas may show up on Quizzes.

Make-up policy: Exam makeups will only be given for University Excused Absences. Any student with a valid reason to be excused from an exam must contact me prior to the exam, either by email or by phone (leave a message at 301.405.5047), and present documentation at the next class session attended. If you need to be excused for a religious observance, you should let me know as soon as possible, but in any case no later than the end of the schedule adjustment period.

As per the new University illness policy, if you miss a class due to illness, you must make a reasonable effort to contact me prior to class and provide me with a note signed by you detailing the date and reason for absence at the next class attended. If you miss more than two classes or an exam you will be required to provide a documentation signed by a health care professional.

Accommodations for Students with Disabilities Accommodations will be made as appropriate. Please see me with your documentation from DSS if you require accommodations.

I reserve the right to give unannounced quizzes and make changes in the syllabus that I feel are necessary. Any changes in the syllabus will be announced in class and posted to the website.