MAT 595-01 Mathematical Analysis

Lecture: MW 2:00-3:15pm
Classroom: Petty 007
Prerequisite: Grade of C or better in MAT 395 or permission of instructor
Text: Principles of Mathematical Analysis, 3rd edition, by W. Rudin,
ISBN: 978-0-07-054235-8

Instructor: Dr. Maya Chhetri
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Office hours: MW 10:0am-10:50am, T 12:00pm-1:00pm and/or by
appointment. I usually keep my door open, so feel free to walk-in.

Course Objective: We will cover first three chapters of the textbook: The
Real and Complex Number System, Basic Topology and, Numerical
Sequences and Series. Upon the successful completion of this course, a
student

- Should be able to think in analytical manner.
- Should be able to formulate mathematical arguments in a logical
  and concise manner.
- Should develop appreciation for in-depth analysis of seemingly
  common concepts that are taken for granted.
- Should have a solid background in mathematical analysis to
  continue to MAT 596.

Tests/Home works: There will be three in-class tests, weekly homework
assignments, two oral presentations and a comprehensive final exam.

Grading Policy_:_
Test 1 = 15% (Chapter 1)
Test 2 = 15% (Chapter 2)
Test 3 = 15% (Chapter 3)
Final exam = 29% (Monday, December 8, 3:30pm-6:30pm)
Three tests and final exam will follow the format of exercises from the
book.

Homework = 20% --- I encourage you to have a discussion among
yourselves about homework assignments. However, you must submit

your own work and not a copy of your classmate's work with whom you discussed and collaborated. You are encouraged to read other analysis books to understand the topics of the course. During this process you may stumble on solutions of your homework assignments. If you decide to use it, you must cite appropriately (book information, page etc). Same applies to solutions from the internet. Copying without understanding helps only with 20% of your grade but risk copying incorrect solution which may not be useful at all.

Two oral presentations – 6 points (topics and dates will be determined in class)

Grading Scale:
100-99 = A+ (only for undergraduate students), 98-93=A, 92-90 =A-
89-87 = B+, 86-83=B, 82-80=B-
79-77=C+, 76-73=B, 72-70=C-
69-67=D+, 66-63=D, 62-60=D-
Below 60 =F

The book: You will notice that the book is very dense in terms of content. I encourage you to read and write the details that are missing. If the sentence says, "clearly", is it really clear? "Therefore" it follows – why does it follow? You must ask these questions as you read the topics. This is a classic book in Analysis because it is elegant and yet challenging which rewards a dedicated reader at the end. Here is quote from an online forum

This is an incredible book for budding mathematicians. Be prepared to fill in the gaps in Rudin's propositions. Not an easy read by any means, but worth it! I recommend this book to anyone about to undertake graduate work in Mathematics or to anyone who compulsively thinks about the underpinnings of Calculus on a daily basis.

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http://academicintegrity.uncg.edu/.