

## MAT 596-01 Mathematical Analysis

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Lecture: MW 2:00-3:15pm

Classroom: Stone 217

Prerequisite: Grade of C or better in MAT 595 or permission of instructor

Text: Principles of Mathematical Analysis, 3<sup>rd</sup> edition, by W. Rudin,  
ISBN: 978-0-07-054235-8

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Office hours: MW 1:00pm-1:50pm, T 12:00pm-1:20pm and/or by  
appointment. I usually keep my door open, so feel free to walk-in.

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Course Objective: We will cover at least the following topics – Continuity, Differentiation, The Riemann-Stieltjes Integral and, Sequences and Series of Functions. 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 in Calculus that are taken for granted.
  - Should have a solid background in mathematical analysis.
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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%

Test 2 = 15%

Test 3 = 15%

Final exam = 29% (Wednesday, May 6, Noon-3:00pm)

Three tests and final exam will closely 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 feel out 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.

**Academic Integrity Policy:** The UNCG Academic Integrity Policy applies to all your work for which you receive grade.

<http://academicintegrity.uncg.edu/>.