

MATH 4253
Real Analysis
Spring 2020

Instructor: Dr Scott Gordon

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Office Hours: 10:00–11:00 WF, 2:30–3:30 MWF, or by appointment.

Time and Location: MW 11:00–12:15, Pafford 107.

Textbooks: *Real Analysis* by H. L. Royden and P. M. Fitzpatrick and *A User Friendly Introduction to Lebesgue Measure and Integration* by G. S. Nelson.

Course Description: The real number system, limits, sequences, series, continuity, differentiability, and the Riemann integral.

Homework Exercises: Problems assigned after each lesson will be divided into two categories: exercises and turn-in problems. Exercises will not be graded and are designed to help you understand the important concepts and prepare for the tests.

Turn-in problems: There will be approximately 150 points worth of turn-in problems assigned during the semester. Your answers must reflect your own work and you may seek assistance only from me while working on them. If a problem is turned in late, 20% of its point value will be deducted from your grade for each day past the due date.

Tests: There will be six 1-hour tests worth 80 points each. The sixth test will be held on the final exam date and time: 4/29 at 11:00.

Rescheduling Tests: If you have a valid reason for missing a test, you may be allowed to reschedule, but you must make arrangements with me *in advance*.

Grading: Your numerical grade will be your total points (on tests and turn-in problems) as a percentage of the total number of possible points. Your letter grade will be determined according the following grading scale: A: 88–100, B: 76–87, C: 64–75, D: 52–63, F: 0–51.

Withdrawal: February 28th is the last day to withdraw from the course with a grade of W.

Important policies: Please carefully review the information at

<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>

It contains important material pertaining to your rights and responsibilities in this class, including the university's honor code. *Any student who violates the University of West Georgia Honor Code will receive an F for the course.*

Learning Outcomes: The student will be able to

1. Use the definition of measure to establish important properties of measurable sets and functions.
2. Use the definition of the Lebesgue integrals to establish important properties of integrals.
3. Establish important properties of the classical L^p spaces.
4. Establish important properties of metric spaces and continuous functions on metric spaces.