

# Math 711, Spring 2009

Dr. Sarah Raynor

**Textbook:** Real Analysis, Third Edition, H. L. Royden, ISBN 0-02-404151-3.

**Office:** Manchester 343

**Office Extension:** 4466

**Office Hours:** Mondays, Wednesdays, and Fridays 3:00-4:00pm. Feel free to drop by my office any time that I am in.

**Email:** raynorsg@wfu.edu

**Course Website:** <http://www.wfu.edu/~raynorsg/math711.html>

## Course:

This course covers the topic of measure theory. After a brief review of basic set theory and real analysis, we will define Lebesgue measure and the Lebesgue integral. We will discuss questions of integrability and differentiability, and finish the semester by discussing the Lebesgue  $L^p$  function spaces, which are crucial to further studies in analysis. Chapters 1 and 2 of the text will be part of the review, and the main part of the course will cover Chapters 3-6, plus some additional topics from later in the text.

## Assignments:

There will be no graded homework in this course. However, I will suggest problems from the book for every section that we discuss, and I expect that you will attempt to complete them to the best of your ability. I will be available to discuss these problems outside of class, and I also encourage you to discuss them with your classmates. I may occasionally ask you to be prepared to discuss a particular question or problem in class.

**Evaluation:** There are 3 components of your final grade:

1. There will be three take-home exams during the term, which are worth 25% of your grade each.
2. There will be a cumulative oral final exam worth 15% of your grade.
3. Your class participation will be worth 10% of your grade.

I have tentatively scheduled the take home exams for the weekends of February 13, March 27, and May 1. Please let me know immediately if these dates will be a problem for you.