

# Math 311/611, Fall 2008

**Dr. Sarah Raynor**

**Textbook:** Elementary Analysis: The Theory of Calculus, Kenneth A. Ross, ISBN: 0-387-90459-X.

**Office:** Manchester 343

**Office Extension:** 4466

**Office Hours:** Tuesdays 3-4pm, Wednesdays 5-6pm, Fridays 10-11am. Please feel free to drop by my office anytime, although you may want to email first to be sure I am available.

**Email:** raynorsg@wfu.edu

**Course Website:** <http://www.wfu.edu/~raynorsg/math311.html>

**Course:** This course is a first course in real analysis, the study of functions on the real line. It will depend on your knowledge of one-variable calculus, but in this course we will be studying the rigorous notions and proofs that underly the usual ideas of calculus. Our course will discuss the nature of the real line, sequences and series, continuity and differentiability, and sequences and series of functions. If time permits we will also discuss integration. We will also be discussing generalizations of these important basic concepts to metric spaces, such as  $n$ -dimensional Euclidean space.

**Assignments:** I will be assigning homework from every section of the text that we study. Each week I will ask you to write up and submit a subset of the assigned problems for grading. I encourage you to talk with your fellow students and with me about all of the homework. Please remember that what you submit must be your own work, written up independently.

At the end of the course, each student enrolled in Math 611 will be expected to take an oral examination on the course material. Students enrolled in 311 may choose to take an oral exam, or to pick a single major theorem or topic, approved by me, and give an oral presentation on that topic. We will talk more about the details of the presentation during the semester.

**Evaluation:** There are 5 components of your final grade:

1. The homework will be worth 15% of your grade.
2. The oral presentation or oral examination will be worth 15% of your grade.
3. There will be two take-home midterm examinations which will be worth 15% of your grade each. The midterm exams will be given over the weekends of September 26 and October 31.
4. There will be a cumulative final examination which will be worth 30% of your grade. The final will be held at 9:00am on Monday, December 8.
5. Your positive class participation will be worth 10% of your grade.

**Important Note for Graduate Students:** Students enrolled in Math 611 will be held to a higher standard. As appropriate, this expectation will be reflected in course topics, homework assignments, exams, and grades.