

Math 676
Real Analysis I
Spring 2012

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Office Hours To be announced

Course text: *Real Analysis: Measure Theory, Integration, and Hilbert Spaces* by Elias M. Stein and Rami Shakarchi (Princeton Lectures in Analysis)

if you can't find the course text at the UK bookstore, look [here](#)

Course meetings: MWF 1:00 PM, CB 345

Goals and Themes The goal of this course is to provide students with a solid foundation in measure theory, measurable functions, and Lebesgue integration. We will introduce the L^p spaces which are complete spaces of function that play fundamental role in modern analysis. The material in this course is fundamental for students wishing to understand modern analysis, the modern theory of partial differential equations, and probability theory.

This course is also the second course in the Preliminary Exam sequence in Real Analysis. The first course is Principles of Analysis from Fall 2011, and is the prerequisite for this course.

Course Requirements There will be ten problem sets, one midterm exam, and one final exam. Numerical grades will be computed as follows:

Problem Sets (10 @ 10 points each)	100 points
Midterm Exam	100 points
Final Exam	100 points

Letter grades will be assigned as follows:

A	270-300
B	240-269
C	210-239

Homework Homework is due each Monday as indicated in the [schedule](#). You should give clear, complete solutions in complete sentences. Give specific references from the lecture or from the text when citing

theorems, propositions, etc. Late homework will not be accepted.

Important Dates

Drop Deadline TBA

Mid-Term Exam (Target Date) March 7

Final Exam Monday, April 30, 8:00 AM in Room CB 345