

## MATH 245B - WINTER 2010

**Time and Place:** MWF 1:00 MS 6629, and Tuesday 1:00 MS 6629, beginning Jan. 4.

**Office hours:**

J. Garnett, MWF 11:00 in MS 7941

Josh Zahl, TuF 2:00 in MS 6154

**Texts:**

G. B. Folland, *Real Analysis, Modern Techniques and Their Application, Second Edition*, (0-471-31716-0) (required for 245B and 245C).

E. M. Stein and R. Shakarchi, *Real Analysis, Measure Theory, Integration, and Hilbert Spaces*, (0-691-11386-6) (required for 245B and 245C).

**Topics:** In 245 B we will cover Chapters 4, 5, 6, and 7, of Folland and Chapter 6 of Stein-Shakarchi. In 245 C we will cover Chapters 5 and 7 of Stein-Shakarchi and Chapters 8 and 9 of Folland.

**Prerequisites:** 245A with grade B- or higher, or instructors permission.

**Grade:** Maximum of (homework 40%, final 60%) and (homework 50%, final 50%).

**Final Exam:** Friday March 19, 11:30 - 2:30, in MS 6629. Closed book.

**Homework:** You must present at least one homework problem at the blackboard in quiz section. There will be 5 - 6 homework sets, including some very challenging problems.

**Homework I.** Due January 20 in class: Folland, Chapter 4, Problems 5, 11, 13, 14, 16, 19, 38, 39, 40, 49, 50, 57, 58, 59, 74.

**Homework II.** Due Feb. 3, in class: Folland, Chapter 5, Problems 6, 11, 12, 15, 18, 25, 28, 45, 48, Stein-Shakarchi, page 312, Exercises 2, 3, 8, 9.

**Homework III.** Due Feb. 17, in class. Stein-Shakarchi, page 312, Exercises 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22. Page 319, Problems 1, 3 (except for last sentence about appendix in Book I).

**Homework IV.** Due March 10, in class. Folland, Chapter 6, Problems 1, 6, 8, 10, 11, 13, 14, 21, 22, 27, 29, 31, 38, 41.