

Math 617, Real Analysis II, Winter 2011

Class Time: MWF 10-10:50a.m. in 210 Deady Hall
Instructor: Dr. Marcin Bownik
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Office: 141 Campbell
Office Phone: 346-5622
Office Hours: 11-12p.m. Monday and Friday, 1-2p.m. Wed., or by appointment
Textbook: *Real and Complex Analysis*,
by W. Rudin, 3rd ed., McGraw-Hill

- 1. Background and Goals.** This course introduces students to the subject of real analysis, and to a lesser extent, complex and functional analysis. Topics include: Banach spaces, the Banach-Steinhaus Theorem, the Open Mapping Theorem, the Hahn-Banach Theorem, absolute continuity of measures, the Radon-Nikodym Theorem, the Riesz Representation Theorem, the Hardy-Littlewood maximal function, Lebesgue points of differentiability, the Fundamental Theorem of Calculus, the change of variables theorem, product measures, the Fubini Theorem, and convolutions. The course, which is the second of three in the sequence, covers most of the chapters 5–8 of the textbook.
- 2. Exams.** There will be one midterm in-class exam on Wed. 2/9, and a final exam on Thu. 3/17, 10:15a.m.–12:15p.m.
- 3. Homework.** Homework problems will be assigned every other week and be due in class on Wednesday on the material of the previous 2–3 weeks. No late homework will be accepted. Group work on homework is encouraged, but each student must individually write and turn in her/his own assignment.
- 4. Grading.** The grading distribution will be as follows:

Homework:	40%
Midterm Exam:	20%
Final Exam:	40%