

**MATH 6321**  
**Functions of a Real Variable**  
**Spring 2011**

- Class:** T&Th 2:30pm-4:00pm, SEC 203
- Instructor:** Bernhard Bodmann, bgb@math.uh.edu
- Office:** PGH 604; W 11-11:50am, Th 11-11:50am
- Content:** This is the second semester of a 2 semester sequence. This semester continues to develop measures and integration, which is essential in many areas of mathematics (in particular in analysis and probability). The syllabus for the second semester will cover most of the following topics: Banach space theory, with an application to Fourier series. Complex measures. Differentiation. Product measures and Fubini's theorem. Fourier transforms.
- Prerequisites:** Math 6320 or equivalent.
- Text:** Walter Rudin, Real and Complex Analysis, 3rd edition, McGraw Hill, 1986. (Optional reading: Gerald Folland, Real Analysis, 2nd edition, Wiley-Interscience, 1999.)
- Midterm Exam:** Tuesday, March 8, 2010, in class.
- Assignments:** You will be asked to hand in approximately eight assignments, which will usually be due on Thursdays in the lecture.
- Final Grade:** The midterm and the final exam will be based on the notes given in class, and on the homework. The final grade is based on a total score of 400 points consisting of homework (100 points), a midterm exam (100 points), and a final exam (200 points).