

**MATH 6100 - THEORY OF FUNCTIONS OF A REAL VARIABLE - FALL  
2016**

**Instructor:** Jesse Peterson

**e-mail:** jesse.d.peterson@vanderbilt.edu

**Office:** SC 1414

**Office Hours:**

Wednesdays: 10:00-10:50am.

Fridays: 2:20-4:00pm.

Or by appointment

**Website:** <http://www.math.vanderbilt.edu/~peters10/teaching/fall2016/math6100.html>

**Prerequisites:** Math 3100: Introduction to Analysis for Undergraduates.

**Recommended textbooks:**

Real Analysis: Modern Techniques and Their Applications 2nd Edition, by Gerald B. Folland.  
ISBN-10: 0471317160

Real and Functional Analysis (Graduate Texts in Mathematics) (v. 142) 3rd Edition, by Serge Lang.

ISBN-10: 0387940014

**Description:** (From the student handbook) The real number system, transfinite numbers, spaces, point sets in metric spaces, sequences and series of functions, measure. Lebesgue integration, convergence theory, inversion of derivatives.

**Homework:** Homework will be assigned in class. All homework must be type using LaTeX (there is a template on the course webpage), and the .tex file must be emailed to me. The LaTeX file must compile. I will not accept paper copies, or pdf files.

An up to date schedule, including due dates of homework assignments, will be kept on the course webpage.

**Late Homework:** Homework assignments (except the last one) may be turned in up to seven days after their due dates, without penalty! However, late homework will only be accepted if you present a problem on the board during office hours that same week. Homework will not be accepted after seven days past its due date. The last homework assignment cannot be late.

**Grades:** The course will have one midterm constituting 30% of the grade, the homework will constitute 30% of the grade, and the final exam will constitute the remaining 40% of the grade. No alternate date for the final will be given.

**Attendance:** (from the student handbook) Students are expected to attend all scheduled meetings of classes in which they are enrolled; they have an obligation to contribute to the academic performance of all students by full participation in the work of each class. The faculty of the College of Arts and Science recognizes that occasions arise during the academic year that merit the excused absence of a student from a scheduled class or laboratory during which an examination, quiz, or other graded exercise is given. Examples include participation in sponsored university activities (e.g., debate team, varsity sports), observance of officially designated religious holidays, serious personal problems (e.g., serious illness, death of a member of the students family), and matters relating to the students academic training (e.g., graduate or professional school interviews). Conflicts arising from personal travel plans or social obligations do not qualify as excused absences.