

# MA575: Principles of Analysis

Fall 2014

Instructor P. D. Hislop  
Office: 753 POT  
7-5637 or peter.hislop@uky.edu  
Text: R. Beals: *Analysis: an Introduction*, Cambridge 2004.  
Class Meetings: MWF 11:00–11:50PM CB 339  
Office Hours: MWF 3-4; and feel free to stop by, call, or email me.

## Course Topics

The goal of this course is to provide everyone with a firm foundation in the theory of functions of a single real variable. Although a lot of this is familiar from the calculus, we'll carefully and rigorously study properties of functions, like continuity and differentiability, and the Riemann integral. We'll also look at questions of convergence of sequences of numbers and functions, including the important topic of uniform convergence of functions. We'll also cover some basic point set topology and properties of metric spaces. These are fundamental ideas that all mathematicians should be familiar with. This is a self-contained course. The core material will include the first eight chapters of Beals' book (skipping some subsections).

**Course Requirements:** There will be 10 problems sets, one midterm (closed book) exam, and one final (closed book) exam.

## Grading Policy

Item	Date	Total Points
Problem Sets	10 and each worth 10 points	100
Hour Exam	21 October - in class (tentative)	100
Final Exam	17 December, Wednesday-in class 3:30–5:30 PM	100
TOTAL		300

The minimum cut-offs for letter grades are: A 270–300; B 240–269; C less than 240. If your final total of all scores is within one of these intervals you are guaranteed to receive the corresponding letter grade or higher.

**PROBLEM SESSION:** We will meet once a week (time to be decided) to discuss homework problems.

1 September Labor Day - No classes  
17 September Last day to withdraw from a class with no grade  
20 October Midterm of Fall 2014 Semester  
7 November Last day to drop with a W  
26–29 November Thanksgiving Holiday - Break-No Classes  
12 December Last Class  
17 December 3:30–5:30 PM Final Exam in class