

Analysis I
MWF 9–9:50
CB347
Spring 2002

Instructor: Russell Brown
Office: POT741
Phone: 859 257 3951
rbrown@uky.edu
Office hours: MWF:11-12
and by appointment.

Grading: Mid term exam 100
Homework 200
Final 150

Text: *Measure and integral*, R. Wheeden and A. Zygmund.

This course will introduce students to Lebesgue integration. The content of this course will be examined in the real analysis portion of the analysis prelim exam.

Homework: Homework will be assigned and collected regularly. You should endeavor to write out your homework clearly. Use complete sentences. Refer to facts from the text by giving page or result numbers. Note that homework is a substantial fraction of your grade.

Be aware that your instructor is old and cranky. Late homework will not be accepted. You may only write on one side of a paper. Leave generous margins. I may use the margins and the back of each sheet for comments. I prefer that your solutions be handwritten.

A portion of your homework grade may be based on presentations of homework problems that students give in class or in an additional problem session.

I would like to schedule an additional hour per week as a problem session. We will see if this is possible.

Exams: There will be one midterm exam and a final. The final will be cumulative. The final exam is on Wednesday, May 1, 2002,

A number of other textbooks cover the material of this course. Three of my favorites are:

- *Lebesgue integration on Euclidean spaces*, BF Jones.
- *Real Analysis*, H. Royden
- *Real and Complex Analysis*, W. Rudin.

Schedule: I hope to cover Chapters 1 to 7 of Wheeden and Zygmund. Below is a tentative schedule. It will be amusing to see if we can follow it.

Chapter	Topics	Dates
1	Preliminaries	1/9–1/14
2	Functions of bounded variation and the Riemann–Stieltjes integral	1/16–2/4
3	Lebesgue measure and outer measure	2/6– 2/20
	Exam	2/22
4	Measurable functions	2/25–3/8
5	The Lebesgue integral	3/18–4/1
6	Repeated integration	4/3–4/17
7	Differentiation	4/19–4/26.