Analysis II   Instructor: Russell Brown
MWF 10-10:50pm   Office: POT741
CB 345   Phone: 859 257 3951
Fall 2007   rbrown@uky.edu
                                           Office hours: MW 11-12, F 2pm
                                                    and by appointment.

Text: *Measure and integral, R. Wheeden and A. Zygmund.*
This course is a continuation of MA 676 and will study questions related to analysis
in $\mathbf{R}^n$. We will begin with Fubini's Theorem and repeated integration, L^p-classes,
Hilbert space, the Hardy-Littlewood maximal function, Banach spaces, the
Radon-Nikodym Theorem and duality in Banach spaces. We will conclude with
some topics in harmonic analysis.
We will cover most of Chapters 6, 8, 9, 10 and 12 from Wheeden and Zygmund and
some supplementary material.

Homework: Homework will assigned and collected regularly. No late homework
will be accepted.

Grading: Your grade will be determined as follows.

Homework	100
Exam	100
Final	200
Total	400

Exams: There will be one mid-term exam and a final. The format will be
announced at least one week in advance. All or part of the examinations may be
oral, a presentation or take-home exam. The midterm exam will be on 5 October.

Supplemental references: Several books which cover the material of this course
include:

- *Lebesgue integration on Euclidean spaces,* BF Jones.

- *Real Analysis,* H. Royden

- *Real and Complex Analysis,* W. Rudin.

- *Inequalities,* Hardy, Littlewood and Polya.

- *Real analysis, measure theory and Hilbert spaces,* E.M. Stein and Rami
  Shakarchi.

- *Analysis,* E. Lieb and M. Loss.

- *A concise introduction to the theory of integration* Daniel Stroock.

August 22, 2007