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 Analysis II (MAA6617) Spring 2016
Topics in Functional Analysis
(MAA7527)

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Analysis II (MAA6617) Spring 2016

Time and Location

M W F 4, Little 237

Description and Goals

This course treats the fundamentals of measure and integration theory, including L_p spaces and the Radon-Nikodym theorem; and an introduction to functional analysis, including Banach spaces, Hilbert spaces, and the theory of linear operators. Other topics that may be included (depending on time and interest) are harmonic analysis and the Fourier transform, the theory of distributions, the spectral theorem, and an introduction to probability.

Text: There is no required text for this course. A complete set of lecture notes will be posted on the webpage as the course progresses. Of the texts listed below, the course will come closest to the treatment in Folland, so if you would like to have a book to look at, that is the one I recommend. The first two-thirds of the course (all of the fall semester and continuing into the spring) will correspond roughly to Chapters 2, 3, 5, and 6 of Folland.

Some standard texts that treat the material covered in this course are:

Real Analysis: Modern Techniques and Their Applications by Gerald B. Folland

Real and Complex Analysis by Walter Rudin

Real Analysis by H. L. Royden

Real Analysis: Measure Theory, Integration, and Hilbert Spaces by Eli Stein and Rami Sharkey

Some additional references for the first part of the course (on measure theory) are:

Measure Theory by Paul Halmos

An Introduction to Measure Theory by Terence Tao

Lecture Notes

[Current lecture notes](#) (updated 1/6/16)

[Fall 2015 lecture notes](#) (updated 11/18/15)

Homework

Homework will be assigned and graded weekly; assignments will be posted below as the semester progresses.

Homework 1 (due Monday 11 Jan): Problem 21.3

University policies and resources

- Dean of Students:
 - Academic Honesty Guidelines
(includes Code of Student Conduct, University of Florida Honor Code)
 - Disability Resources
- Americans with Disabilities Act Compliance
- Mathematics Department Policy on Incompletes
- UF Policies for assigning grade points (This link has nothing to do with the grading policies of this course; rather it explains how letter grades are converted to grade points for the purpose of computing GPAs.)

