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MAA6617 syllabus

Analysis II
Section 3015 Spring 2015

Instructor

Scott McCullough

Course Content and Objectives

This course, over the two semesters, treats the fundamentals of measure and integration theory, including Lp 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 harmoinc analysis and the Fourier transfom, the theory of distributions, the spectral theorem, and an introduction to probability.

References

Real and Complex Analysis by Walter Rudin
Real Analysis: Modern Techniques and Their Applications by Gerald B. Folland
Real Analysis by H. L. Royden
Measure Theory by Paul Halmos
An Introduction to Measure Theory by Terence Tao

Suggested Problems

Selected problems from the notes will be assigned on a daily basis.

Homework

Homework problems, selected to complement each students interests and course of study, will be assigned, collected, and graded.

Exams

For those planning to take the qualifying exam in analysis, there will be a midterm and final exam.

Midterm Exam. Wednesday 25 February.
Final Exam. Wednesday 29 April, 3-5 pm.

Grading

Course grades will be based on participation, homework and/or exams.

See the current UF policy on assigning grade points.

Attendance

Attendance is recommended.

Additional Information:

Grades. Grading will be in accord with the UF policy stated at https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

Academic Honesty. The course will be conducted in accordance with the University honor code and academic honesty policy, which can be found in the student guide

Accommodation for students with disabilities. Accommodations for Students with Disabilities: "Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester."

Online Evaluations. "Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/."

Contact information for the Counseling and Wellness Center. http://www.counseling.ufl.edu/cwc/Default.aspx; 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Tentative weekly schedule

January 7 – 21, Linear Functionals and Hahn-Banach.
January 23 – 30, Baire Category Theorems.
February 2 – 20, Hilbert space.
February 23 – 25, Review and Midterm.
February 27 – March 25, Lp spaces and Spring break.
March 27 – April 15, Fourier Transform.
April 17- 22, Flex days, Review, Probability.

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