Math 721 Syllabus
Real Analysis

COURSE INFORMATION

Real Analysis
MATH 721 001 (3 Credits)
Fall 2018-2019 [1184]

Description Basic graduate class in Functional analysis and Measure and Integral.
Prerequisite(s): MATH 522 or equivalent
Breadths: N - Natural Science
Instruction Mode: Classroom Instruction

Department: MATHEMATICS
College: Letters and Science

Location and Schedule: Van Vleck Hall B115, MWF 8:50-9:40.

How the Credit Hours are Met:
[Traditional Carnegie Definition] This class meets for three 50-minute class periods each week over the semester and carries the expectation that students will attend class and work on course learning activities (reading, writing, problem sets, studying, etc) for about two hours out of classroom for every class period. The syllabus includes additional information about meeting times and expectations for student work.

Instructor: Andreas Seeger seeger@math.wisc.edu, 613 Van Vleck
Office hours 613 Van Vleck, Time TBA in class

Expected course learning outcomes. Students will learn concepts and techniques in real and functional analysis.

Textbook. Real Analysis, by Gerald Folland.

Homework. Homework will be usually be collected at the beginning of the lecture on the date when it is due. No late submissions and submissions by email.

• Students may discuss the material with others and consult other sources but must specify their collaborators and all sources on each homework, including other textbooks and information found on websites. Failure of doing so is considered academic misconduct.

Exams. The time and format of the two exams will be announced in class and by email at least two weeks prior to the date of the exam.

Grading. Grading of homework will be partially done by your peers in class. All students are expected to participate in this process. The course grade will be determined according to students’ performance on homework and homework grading (≥30%), and exams (≤70%).

Topics:
This is the first semester of the introductory graduate sequence in real analysis. We will cover measure and integration theory, some basic functional analysis (inequalities, normed spaces, linear operators, Baire category, and Hilbert spaces), and $L^p$ spaces. The course will be continued as Math 725 in the spring semester.
SELECTED UW ACADEMIC POLICIES

ACADEMIC INTEGRITY
By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to https://conduct.students.wisc.edu/academic-integrity/

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES
McBurney Disability Resource Center syllabus statement: “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student’s educational record, is confidential and protected under FERPA.”
http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php

DIVERSITY & INCLUSION
Institutional statement on diversity: “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” https://diversity.wisc.edu/