COURSE DESCRIPTION
REAL ANALYSIS II
MA 646-2F
SPRING 2025

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: Rudi Weikard
Office: UH 4032
Phone#: 934-3720
E-mail: weikard@uab.edu
Zoom: `https://uab.zoom.us/my/rudi.weikard`
Office Hours: Drop in anytime or call or e-mail for an appointment.

Meeting times: TT 3:30 pm – 4:45 pm
Meeting location: UH 4002
Textbook: No textbook required. Lecture notes will be provided.
Canvas: `https://www.uab.edu/elearning/canvas/`

Important dates:

First day of classes: January 13
Martin Luther King Holiday: January 20
Last day to Drop/Add: January 21
Spring Break: March 10 – 16
Last day of classes: April 25
Final exam: April 29, 4:15 pm – 6:45 pm
Grades available online: May 7

Course content:
- Complex and local measures
- The Lebesgue-Radon-Nikodym theorem
- Radon functionals on locally compact Hausdorff spaces
- Functions of bounded variation and Lebesgue-Stieltjes measures
- The Fourier transform

Methods of teaching and learning:
- 28 class meetings of 75 minutes consisting of investigations and discussions of concepts, theorems, and examples.
- Students are expected to undertake at least 8 hours of private study and homework per week.

Date: December 19, 2024.

Aims of the course:

The course aims for students to attain a deep understanding of the concepts of measure and integral and their applications as evidenced by their ability to reason through the proofs of many or most standard theorems.

Assessment procedures:

- Final grades are determined by participation in class during the course (60%) and by a final exam (40%).
- The final exam occurs on Tuesday, April 29.
- During the term your contributions are counted leading to a number S. Let H be the highest number of contributions achieved by anyone. Your course participation score is going to be S/H if we cover all material or $80S/(100H)$ if not.
- Your course performance is the weighted average of your course participation score and your final exam grade (each is a number between 0 and 100).
- Your final grade is determined according to the following table:

Course performance:	90-100	70-89	50-69	below 50
Final Grade:	A	B	C	F

Course policies:

- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements may be sent to that address.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at `dss@uab.edu`.
- The Final Exam is a closed-book-exam.
- Class attendance is required. After each 3 absences from class 10 points will be subtracted from your course performance score.

Disability Support Services

UAB is committed to providing an accessible learning experience for all students. If you are a student with a disability that qualifies under the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act, and you require accommodations, please contact Disability Support Services for information on accommodations, registration and procedures. Requests for reasonable accommodations involve an interactive process and consist of a collaborative effort among the student, DSS, faculty and staff. If you are registered with Disability Support Services, please contact me to discuss accommodations that may be necessary in this course. If you have a disability but have not contacted Disability Support Services, please call (205)934-4205 or visit `http://www.uab.edu/dss`.

Title IX Statement The University of Alabama at Birmingham is committed to providing an environment that is free from sexual misconduct, which includes gender-based assault, harassment, exploitation, dating and domestic violence, stalking, as well as discrimination based on sex, sexual orientation, gender identity, and gender expression. If you have experienced any of the aforementioned conduct,

we encourage you to report the incident. UAB provides several avenues for reporting. For more information about Title IX, policy, reporting, protections, resources and supports, please visit the UAB Title IX webpage for UAB's Title IX Sex Discrimination, Sexual Harassment, and Sexual Violence Policy; UAB's Equal Opportunity and Discriminatory Harassment Policy; and the Duty to Report and Non-Retaliation Policy.