

MATH 676 ANALYSIS I SPRING 2018

MIHAI TOHANEANU

Class meeting: MWF 2-2:50 CB 343

Instructor information:

Instructor: Mihai Tohaneanu

Office: POT 749

Email: mihai.tohaneanu@uky.edu

Office hours: Wed 9:00 am -10:30 am and Thu 2:30 pm - 4:00 pm or by appointment

Course Web Page: <http://ms.uky.edu/~mhto224/676S18/main.html>

Text: The main text will be *Real Analysis: measure theory, integration, and Hilbert spaces*, by Elias Stein and Rami Shakarchi. We will cover most of Ch. 1-3, and some additional topics involving spaces of functions.

We will begin the course by studying the notions of Lebesgue measure and integration, first on the real line, and then on \mathbb{R}^n . Along the way we will discuss basic properties of the Lebesgue integral, convergence theorems, Fubini's theorem. Then we will do a brief review of metric spaces, and discuss L^p spaces and some of their basic properties. Finally, we will discuss differentiation properties of the integral, including the Lebesgue differentiation theorem and absolutely continuous functions.

Homework: There will be a weekly homework collected at the start of the class every Friday. To compute the Homework grade I will drop the lowest grades on your homework sets. Due to this policy no late homework will be accepted and no make-up homework will be given. You are allowed to discuss homework problems with others, but everything you submit must be written up independently.

Grading:

- Homework 30%
- Class participation 10%
- Midterm 25%
- Final 35%

Important Deadlines:

First day of classes January 10

Last day to add a class January 17

Last day to drop without a W or change grading option January 31

Spring Break March 12-17

Midterm exam March 2

Final exam April 30 1:00 PM

Course Policy on Academic Accommodations due to disability:

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center. Check the site: <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter> for further information.

Course Policy on Academic integrity:

Students may work together on homework, but should not submit solutions until they understand how to obtain the answer. All other course work on exams must be the student's own work. Useful information about students' rights and responsibilities can be found at the following website: <http://www.uky.edu/Ombud> . You are advised to consult it as needed.