MATH 502 - REAL ANALYSIS 2 - SYLLABUS

Instructor: Dennis Kriventsov

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Office Hours: MW 18:00 HILL 524 (tentative)

Meetings: MTh 10:20-11:40 Hill 005

Topics

The course will cover at least some of the following subjects, depending on interest:

- Point-set topology review
- Riesz representation theorems
- Fourier transform
- Distributions
- Haar measure
- Basic geometric measure theory
- Basic harmonic analysis
- Important functional inequalities
- Probability

Structure

- There will be weekly homework assignments, due Thursdays and turned in on Canvas. They will be graded and are worth 20% of the grade.
- There will be one midterm (date TBA, but likely March 7), worth 35% of the grade. There will be a final exam, worth 45% of the grade.

Texts

I will follow Folland, *Real Analysis: Modern Techniques and Applications*, for part of the course, but not very closely. For some topics I expect to deviate completely and may suggest other references.