MATH 404/541
Harmonic Analysis
Session 2023W Term 1, (Sept-Dec 2023)

Instructor Information

Instructor: Joshua Zahl
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Office Hours: MATH 117, By appointment

Course Information

Class time: MWF 13:00 - 14:00
Class location: [AUDX 157](#)
Course web page: https://canvas.ubc.ca/courses/125214.

Text: There are no required textbooks. The following textbooks are recommended.
- *[Lectures on Harmonic Analysis](#)* by Tom Wolff
- *Harmonic Analysis: Real-Variable Methods, Orthogonality, and Oscillatory Integrals* By Eli Stein.
- *An Introduction to Harmonic Analysis (3rd edition)*, by Yitzhak Katznelson

All of these books are available online for free to registered UBC students.

Course Description: This course is an introduction to the modern study of harmonic analysis. We will focus on the mapping properties of linear and sublinear operators, such as the Fourier transform, Hilbert transform, and other singular integral operators.

Prerequisite: MATH 300 and a score of 68% or higher in MATH 321.
Corequisite: MATH 420. We will briefly review some results from measure theory at the beginning of the course.

Evaluation

Homework problems will be posted on the course website. In addition, you will be required to give a presentation over Zoom on a topic relevant to the course material and agreed upon by yourself and the instructor. Your total score will be a weighted average of your homework and in-class presentation, with the breakdown as follows

Homework: 70%
Presentation: 30%

General syllabus information

See https://www.math.ubc.ca/general-syllabus-information for the UBC Mathematics department standard course policies. All of these policies apply to this course.