MATH 404/541
Harmonic Analysis
Session 2020W Term 1, (Sept-Dec 2020)

Instructor Information

Instructor: Joshua Zahl
Email : jzahl@math.ubc.ca
Office Hours: Over Zoom, By appointment

Course Information

Class time: MWF 12:00 - 13:00
Class location: Zoom. See Canvas for link
Course web page: https://canvas.ubc.ca/courses/55323 .

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. Consult the course webpage for relevant links

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%

Academic Integrity: The Mathematics Department strictly enforces UBC's Academic Integrity Code.

Students with Disabilities: Please see the instructor as soon as possible if you need any special accommodations.

Statement on UBC's Policies and Resources to Support Student Success:
UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here.