Spring 2020 Math 256A: Partial differential equations

This is an advanced graduate course on partial differential equations. No previous experience with partial differential equations is required, but familiarity with measure theory and functional analysis is expected.

Course webpage
http://web.stanford.edu/~jluk/math256Aspring20/index.html

Instructor
Jonathan Luk, jluk@stanford.edu

Prerequisites
Math 205A and 205B recommended. (At the very least you will need 172 and 175. On the other hand, prior experience with PDEs is not required.)

Lectures
Tu, Th 9-10:20am on zoom

Office Hours
TBD

Textbook
Leon Simon, Lectures on PDE. The textbook is available in pdf format, which will be available through canvas.

Topics of the course
Topics include Cauchy–Kovalevski theorem, Fourier transform and Sobolev spaces, elliptic regularity theory, parabolic equations, hyperbolic equations. See details on the course schedule.

Homework assignments
• There will be four homework assignments, which will be due on the Tuesday on Weeks 3, 5, 7 and 10. Assignments can be found on the course website (at least) two weeks before it is due.
• The main purpose of the assignments is to ensure that you follow along the course. Please at least think about all the problems (even though there are no grades for this course).

• You may turn in your assignment through canvas or directly through e-mail.

• You are encouraged to work together (virtually!), but you are expected to write up your own solutions.

Examinations

• There will be no examinations.

Grading basis

• This course will be graded on a Satisfactory/No credit basis.