

# Autumn 2018 Math 256A: Partial differential equations

This is an advanced graduate course of 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/math256Aautumn18/index.html>

## Instructor

Jonathan Luk, [jluk@stanford.edu](mailto: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 9-10:20 at Herrin Hall Room T185

## Office Hours

Tu 10:30-11:30 (or by appointment) at 380-382Z.

## Textbook

Leon Simon, Lectures on PDE. The textbook is available in pdf format, which I will send out to everyone who is registered.

## Topics of the course

Topics include Cauchy–Kovalevski theorem, Fourier transform and Sobolev spaces, elliptic regularity theory, parabolic equations, hyperbolic equations.

## Homework assignments

- There will be four homework assignments. They will all be very short, each consisting of two to three problems. The assignments are only meant to help you keep up with the material. Assignments can be found on the course website (at least) one week before it is due.

- If you are a PhD student<sup>1</sup>, you are not required to turn in any of the assignments.

## **Examinations**

- There will no examination.

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<sup>1</sup>Unless this course is a requirement for a conditional pass for the qualifying exam.