Instructor Vera Mikyoung Hur, 269 Altgeld, 4-0142, verahur@math.uiuc.edu.
Times and Location TR 9:30-10:50am in 7 Illini Hall.
Office Hours Wednesday 9:00am-NOON or make an appointment by email.
Text Partial Differential Equations by Lawrence C. Evans, 2nd ed. We will cover Chapters 5-7 and part of Chapters 8-9, 12.
Assessment Homework 80%, class participation 20%.

MATH 554 develops the modern theory of partial differential equations — elliptic, parabolic, and hyperbolic — using concepts of functional analysis. We shall obtain qualitative information on partial differential equations, such as existence, smoothness, maximum principles and finite speed of propagation, even when the PDEs cannot be solved explicitly.

The course will be useful to students of differential equations, numerical analysis, probability, and differential geometry.

Prerequisite MATH 541 is not required. MATH 540 and MATH 553 are useful, but not strictly required, provided that you have a strong undergraduate background and are willing to work hard.