

Introduction to PDE
Math 558 - Winter 2009

INSTRUCTOR INFORMATION:

Instructor: Tatiana Toro

Office: Padelford C-343, Phone: 543-1173.

E-mail: toro@math.washington.edu

Office hours: Monday 1:30-2:30, Friday 1:30-2:30 or by appointment.

This is the continuation of a three quarter course introduction to Partial Differential Equations. During the Winter, we will mostly follow L.C. Evans' book *Partial Differential Equations*. This is a list of the topics I intend to cover this quarter:

1. Theory for linear partial differential equations
 - (a) Second-order elliptic equations (Maximum principles, Eigenvalues and Eigenfunctions)
 - (b) Linear evolution equations
2. Theory for nonlinear partial differential equations
 - (a) Calculus of Variations
 - (b) Non-variational techniques

RESERVE LIST:

- Partial Differential Equations, L.C. Evans, AMS, Graduate Texts In Math (recommended textbook).
- Elliptic Partial Differential Equations of Second Order, D. Gilbarg and N. Trudinger.

REMARKS:

- Homework will be due on February 13 and on March 16, 2009.
- Students are expected to be familiar with the topics treated in the Appendices of Evans' book.