Course: Math 644 Partial differential equations

Instructor: Ryan Hynd

Office: DRL 4N42

Office Hours: Tuesdays 3-4pm or by appointment

Lecture: Mondays and Wednesdays 1:30-3pm

Dates: Wednesday August 29, 2018 – Monday December 10, 2018

Class location: DRL 3C6

Description: This course will be an introduction to the theory of partial differential equations. We will focus on four important linear equations (transport, Laplace's, heat and wave equations), nonlinear first order equations (Hamilton-Jacobi and scalar conservation laws) and develop various tricks to represent solutions to these and other equations. If time permits, we will also discuss ways to abstractly solve some linear equations using appropriate functions spaces.

Prerequisites: Good familiarity with calculus of several variables is the most important thing. We might also cover a few topics that involve a bit of real and functional analysis that we will develop as needed.

Textbook: "Partial differential equations," by Lawrence C. Evans. We will cover parts of Chapters 1 – 6.

Assignments: Problem sets, which will be due every other week. The last one will serve as a take home exam.