Math 400 Outline

Instructor: Neil Balmforth, njb@math.ubc.ca, www.math.ubc.ca/~njb

Focus: This class concentrates on analytic methods to solve partial differential equations (PDE's) coming from physical applications.

Topics:

1. Classification of equations
2. Linear and quasi-linear first order equations, shock waves
3. Eigenfunction expansions and Sturm-Liouville theory
4. Parabolic (heat), elliptic (Laplace) and hyperbolic (wave) equations
5. Solution by integral transforms

Text: No required text. Optional text: "Elementary Applied Partial Differential Equations," by Richard Haberman.

Marks: 50% final, 25% midterm, 35% assignments.