

Syllabus for AM35
Fall 2004
Dr. Sigal Gottlieb

Phone: 401-751-9416 (home)
401-345-6061 (cell)

email: sigalgottlieb@yahoo.com
sg@cfm.brown.edu

September:

- Introduction
 - mathematical models
 - classification of differential equations
- First Order Differential Equations
 - Linear equations with variable coefficients
 - Separable equations
 - Differences between linear and nonlinear equations
 - Autonomous equations
 - Exact equations
 - Existence and uniqueness
 - Difference equations

October:

- Second Order Linear Equations
 - Homogeneous equations with constant coefficients
 - Fundamental solutions
 - Linear dependence; Wronskian
 - Characteristic equations
 - Nonhomogeneous equations
 - Variation of parameters

November:

- Higher Order Linear Equations
 - General theory
 - Homogeneous equations with constant coefficients
 - Method of undetermined coefficients
 - Variation of parameters

Maybe even:

- Series Solutions of Second Order Linear Equations
 - Power series
 - Series solutions
 - Euler equations
 - Bessel's equation

Exams:

October 15
November 8
Final Project

No Class: Friday, September 17
No Class: Friday, October 8
Special Class: Friday, October 1