

## MATH 0290: Differential Equations, Summer 2014

MWF 9:45am-10:45am

Benedum 1020

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MAC Hours: Fridays 12-1pm, 4-5pm

**Course Description** This introductory course in differential equations will present relevant topics with an emphasis on application. Main topics include linear and nonlinear differential equations, and the techniques required to solve such problems, e.g., numerical methods, the method of undetermined coefficients, and the Laplace transform. As we learn these techniques, we will explore a variety of examples including those in finance, biology, and physics. If time permits, we will study some theory and applications of Fourier series and partial differential equations.

**Textbook** (Required) Polking, Boggess, Arnold *Differential Equations with Boundary Value Problems*, second edition.

**Grading and Homework** There will be two midterms (each worth 20% of your final grade), weekly homework assignments (worth 25%), and one final (worth 35%). I will drop the lowest homework score. Please note that I encourage students to work together on homework assignments, but those that simply copy each other will receive a failing grade for that assignment.

**Late Homework and Make-up Policy** Late homework assignments will be given a maximum grade of  $x\%$ , where the function  $x(t)$  satisfies the following initial value problem,

$$\frac{d}{dt}x(t) = -\frac{x(t)}{4}, \quad x(0) = 100. \quad (1)$$

The independent variable  $t$  represents days overdue, rounded up to the nearest integer. There are no make-up exams without a valid medical excuse.

**Academic Integrity** Students are required to adhere to the university's academic standards. The University of Pittsburgh Academic Integrity Code is available at <http://www.feas.pitt.edu/academicintegrity.html>

**Disability Services** If you have a disability for which you wish to request accommodation, you are encouraged to tell me and contact Disability Resource Services, 140 William Pitt Union 412- 648-7890 as early as possible.