

AMATH 351 Introduction to Differential Equations and Applications

Jan 04, 2009

*Note: all the following can be found at
<http://www.amath.washington.edu/courses/351-winter-2009/>*

Time MWF 10:30-11:20
Location Loew Hall 102
Instructor Zhang, Yun (Claire)
Office Guggenheim 407
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OfficeHours TBA

Course Description

Introductory survey of ordinary differential equations. Linear and nonlinear equations. Taylor series. Laplace transforms. Emphasis on formulation, solution, and interpretation of results. Examples from physical and biological sciences and engineering.

Textbook

Boyce and DiPrima, Elementary Differential Equations and Boundary Value Problems 8th Edition. (ISBN-10: 0471433381 ISBN-13: 978-0471433385 Available at University Bookstore.) An old version of the book is also ne. I will cover Chapter 1-7 of the book.

Learning Objectives and Instructor Expectations

AMATH 351 aims at familiarizing the students with different types of differential equations, introducing basic skills of solving some of the differential equations that can be solved exactly and letting the students get a sense of how odes are applied in some physical can biological situations. Most of our eorts will be

focused on ordinary differential equations. Since there are tons of readings and exercises in the book, only attending lectures and nishing the homework is far from enough for you to establish a solid foundation. I am expecting you to spend at least 10 hours out of class every week. You are always welcome to ask any questions, even about the topics we won't cover.

Grading

There will be one mid-term, one final exam and weekly homework assignments. Your final grades will be determined as follows:

Homework 40%

Mid-term(60 minutes, full class time) 20%

Final (TBA) 40%

Exams will test your basic understanding of the material covered in class as well as solving problems based on the class materials. The problems in the exam will be very similar to homework problems. In the exams, no calculator is allowed. You can bring one 8.5 x 11 (letter-sized, two-sided) hand-written note sheet and you will have to turn in your note sheet with your exam. Homework is normally due every Wednesday starting from the 2nd week. Late homework is not accepted and there are no make-ups. I will drop your lowest homework grade when calculating your final grade.