

MATH 3318 Differential Equations

Section Number: 001, Fall 2008

Course No: 82337

Lecture: MW 1:00-2:20pm, 105 PKH

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Office Hours: MW 2:30-4:00pm or by appointment.

Prerequisite: Math 2326.

Text: *Differential Equations and Boundary Value Problems*, Computing and Modeling, Fourth Edition by Edwards and Penney.

Course Content: Chapter 1, 1.1-1.6: First-order differential equations. Chapter 2, 2.1-2.2: Population models, Equilibrium solutions and stability. Chapter 3, 3.1-3.6: Linear equations of higher order. Chapter 5, 5.1-5.2, 5.4: Linear systems of differential equations. Chapter 6, 6.1-6.2: Stability and phase plane, Linear and almost linear systems. Chapter 7, 7.3-7.4: Translation and partial fractions, Derivatives, integrals, and products of transforms.

Course Description: We begin by analyzing basic first order differential equations and look at some applications such as population dynamics, rates of flow of liquids. We then develop properties of second order differential equations and consider applications in mechanical vibrations among others. In general we will analyze the qualitative behavior of solutions of differential equations that model real problems.

Homework There is a homework sheet attached. Homework will be assigned every Wednesday and collected in the class meeting of the following Wednesday. It will count 10% toward your grade. Note: late homework will **NOT** be accepted.

Exams There will be three exams during the semester on October 1 (Wednesday), November 5 (Wednesday) and November 24 (Monday). They will be held in the same classroom 105 PKH. Each exam will count 30% toward your course grade.

Your course grade will be determined as described above: Homework = 10% total, Exam one = 30%, Exam two = 30%, Exam three = 30%.

Important Dates:

September 1 Labor Day holiday
September 10 Census date
October 1 Exam one
October 31 Last day to drop courses
November 5 Exam two
November 24 Exam three
December 5 Last day of classes

AMERICANS WITH DISABILITIES ACT: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 933112-The Rehabilitation Act of 1973 as amended. with the passage of new federal legislation entitled Americans with Disabilities Act-(ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide “**reasonable accommodation**” to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with **informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.**

ACADEMIC DISHONESTY: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

“Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.” (Regents’ Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22)

STUDENT SUPPORT SERVICES AVAILABLE: The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.