MA214-002 Calculus IV: Ordinary Differential Equations Spring 2011

Instructor P. D. Hislop Office: 753 POT 859-257-5637 or hislop@ms.uky.edu Text: . E. Boyce and R. C. DiPrima: Elementary Differential Equations and Boundary Value Problems, 8th Edition, Wiley 2005 MWF 9:00-9:50PM CB 339 Class Meetings: Office Hours: M 4-5 in the Lab CB 313W 4-5; F 3:30-4 and by appointment M 4-5 in CB 313 Weekly Problem Session: COURSE MATERIAL AND INFORMATION www.ms.uky.edu/~hislop

Grading Policy

Item	Date	Total Points
6 Quizzes	approximately every two weeks	60
at 10 points each		
4 Lab Projects	15 points each	60
First Hour Exam	18 February (target)	100
Second Hour Exam	8 April (target)	100
Final Exam	4 May 2011, 8:00-10:00 AM	180
TOTAL		500

The minimum cut-offs for letter grades are: A 450-500; B 400-449; C 350-399; D 300-349; E below 300. If your final total of all scores is within one of these intervals, you are guaranteed to receive the corresponding letter grade or higher. Homework will be assigned and discussed in the weekly problem session. Cheating in any form will not be tolerated.

Course Content

MA214 is a basic course in *ordinary differential equations*. The basic problem is to determine an unknown function from an equation that involves only the derivatives of the function. Differential equations are used to model a wide variety of physical and biological phenomena, from atoms to animal populations. We'll study basic equations for which the unknown function-the solutiondepends on one real variable only, like time or position. This is the meaning of the adjective ordinary. We will study first- and second-order ordinary differential equations extensively, especially linear differential equations. We will discuss applications of the equations and some numerical approximation schemes for their solutions. Approximate course material: Chapter 1, Chapter 2 (sections 2.1, 2.2, 2.3, 2.5, 2.7), Chapter 3, and Chapter 6.

This class will have a lab component using the University of Illinois IODE package that runs on MatLab. There will be four projects during the semester. All information on IODE is posted on the class website on my webpage. Our orientation will be on Wednesday, 26 January, 9:00-9:50 AM in the computer Lab CB 313. Please go there instead of the usual room.

This is a **paperless** class to the extend possible. Homework problems, solutions to quizzes and exams, and practice exams will be posted on the class website on my webpage. Please consult it reasonable often. OVER

Special Dates in Spring 2011

17 January	Martin Luther King, Jr. Day - No classes
2 February	Last day to drop with no W
7 March	Midterm of Spring 2010 Semester
14-19 March	Spring Break
1 April	Last day to withdraw from a course
29 April	Last Class
4 May	8:00AM-10:00PM Final Exam