Introduction to Ordinary Differential Equations 3450:335
    Summer 2014 3450:335–311 MTTh 9:45–11:20am CRH 207

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Office Hours: MTTh 11:30am-12:30pm, or by appointment

Tentative Course Outline

Introduction
1.1 Definitions and Terminology
1.2 Initial Value Problems
2.2 Separable Variables
2.3 Linear Equations
2.4 Exact Equations
2.5 Solutions by Substitutions
1.3, 3.1, 3.2 Mathematical Models
TEST #1
4.1 Preliminary Theory – Linear Equations
4.2 Reduction of Order
4.3 Homogeneous Linear Equations with Constant Coefficients
4.4 Undetermined Coefficients – Superposition Approach
4.5 Undetermined Coefficients – Annihilator Approach
4.6 Variation of Parameters
4.7 Cauchy-Euler Equation
5.1 Linear Models: Initial Value Problems
5.2 Linear Models: Boundary Value Problems
Introduction to Matrices
8.1 Preliminary Theory - Linear Systems
8.2 Homogeneous Linear Systems
TEST #2
7.1 Definition of the Laplace Transform
7.2 Inverse Transforms and Transforms of the Derivative
7.3 Operational Properties I
7.4 Operational Properties II
More Practice (7.2–7.4)
7.5 The Dirac Delta Function
7.6 Systems of Linear Differential Equations
Review of Power Series
6.1 Solutions about Ordinary Points
6.2 Solutions about Singular Points
TEST #3
Course Policy

1. You must be on the class roster by June 23, 2014 to participate in any way (attend class, submit homework, take quizzes, take tests).

2. Attendance is required by University rules. If you have to miss a class, you are responsible for any missed class notes, or assignments.

3. Students are expected to comport themselves as adults, and to follow all University Rules, Regulations and Policies, including those on discipline, academic honesty, and harassment. Disruptions, including inappropriate language, are unacceptable. Cell phones and beepers should be turned off during class.

4. The prerequisite for this course is a grade of C- or better in 3450:223 Analytic Geometry – Calculus III, or the equivalent. Students who do not meet the prerequisite are liable to be withdrawn from the course.

5. Incompletes will only be given in documentable cases of long-term illness, or similar problems. In addition, at least half of the semester’s work must have been completed, with at least an average grade of C. College policy also states that a student may not sit in on the course the next semester to make up the incomplete, but only to make up the missed work.

6. You should do as many homework problems as possible to gain mastery of the material. These homeworks will not be collected. There will be additional homeworks assigned, and collected. Each homework question will be graded out of 5 points. No late homework will be accepted. All work submitted must be your own. Neatness and and other communication skills, including spelling, count. Some homeworks will be dropped to compute your final score. There may also be quizzes given.

7. If you are going to miss a test (which will be announced approximately one week in advance), you must have a valid, documentable excuse and notify me in advance, or as soon as reasonable afterward. The make-up will be as soon as possible, generally within a week of the original test date.

8. Final grades will be determined from 400 points, broken down as follows : 3 exams @ 100 points each, homework/quizzes @ 100 points.

The final scale used will be no higher than A 90-100%, B 80-90%, C 70-80%, D 60-70%, F 0-60%. Plus and minus grades will be given at my discretion.