

Math 353, Section 2, Fall 2005

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Office Hours: By appointment; Tuesday and Thursday after the class; Wednesday
12:30 – 15:00.

Text: Dennis G. Zill , A first course in DIFFERENTIAL EQUATIONS (Classic Fifth
Edition), Brooks/Cole 2001

Time/place: Tue-Thu 8:00 – 9:15, Hume Hall 113

We will study elementary methods for solving some classes of ordinary differential equations. Here is the plan for the course.

Chapter 2. First-order differential equations.

- Equations solved by separation of variables
- Homogeneous equations
- Exact equations
- Linear equations
- Bernoulli equation

We will have the first major test towards the end of this chapter. This test is difficult, partially because it is the first test.

Chapter 4. Linear differential equations with constant coefficients (of order two and more).

- General theory, linear algebra reminders
- Homogeneous equations

The second test comes here. It will partially repeat the material from the Test 1. Then we study three methods of solving non-homogeneous linear equations.

- Undetermined coefficients method
- Variation of parameters method
- Reduction of order

The third test comes here (i.e., after we have finished Chapter 4). It covers Chapter 4 but not Chapter 2.

Chapter 7. Laplace transform.

This material will be covered by the fourth test.

- Tests:
1. Out of major tests each counting 100 points one test will be a drop test. All tests will be announced in advance.
 2. The final examination is comprehensive and counts 200 points.
 3. The student shall use large 8 1/2 by 11 inch blue examination books for use on the tests and the final.

Grades will be assigned as follows:

- A 90 - 100%
- B 75 - 89%
- C 60 - 74%
- D 50 - 59%, and F for less than 50%

IMPORTANT.

1. If a test is missed for any reason, a grade 0 will be given.
2. No individual make up tests will be given.
3. Homework will be given but will not be graded. I expect questions about homework to be asked, and discussions about homework, in class.
4. Students must show all work during tests and the final in order to receive credit.
5. Each student is responsible for all work missed due to absence.

Homework Problems:

2.2 Ex: 1-20, 40-45, 57-60. 2.3 Ex: 1-20. 2.4 Ex: 1-15, 25,26,31,32. 2.5 Ex: 1-45
2.6 Ex: 1-6. 4.1.2 Ex: 15-29. 4.2. Ex: 3-10, 31-34. 4.3 Ex: 1-20, 37-40, 57-60.
4.4 Ex: 1-16. 4.7 Ex: 1-28. 7.1 Ex: 1-30. 7.2 Ex: 1-34. 7.3 Ex: 1-44. 7.5 Ex: 1-26

Note: You are not expected to solve every single problem from the above list. These, however, are the type of problems that may appear on tests.