

MATH 302-010  
MWF 9:10–10:05, PRN 324B

Ordinary Differential Equations  
Fall 2024

Web Page: <https://sites.udel.edu/dedwards/classes/m302f24/>  
(also referenced from QR code at end of document)

Instructor: Prof. D. A. Edwards  
EWG 511

Office Hours: T 9:30–10:30 R 1:30–2:30, or by appointment  
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## Introduction

Welcome to MATH 302! In this course you will be learning to solve various types of ordinary differential equations. The text for this course is *Elementary Differential Equations and Boundary Value Problems*, 12th ed., by Boyce and DiPrima.

If you have any questions, contact me during my office hours or make an appointment. **Extra copies of handouts are available at the Web page listed above or referenced at the QR code at the end of the document.**

## Technology

I do not use Canvas. Important announcements (corrections to typographical errors, etc.) will be handled by e-mail. Also at the URL

<https://sites.udel.edu/dedwards/classes/suggest/>

you will find an anonymous suggestion box.

In this class we will be using Mathematica for both homework and exams. The University has a license so that you can download your own free version; see

<https://udeploy.udel.edu/software/mathematica-for-students/>

for more details.

## Homework

In most cases, homework will be distributed on Fridays, and will be due at the beginning of class the following Friday. The homework will ideally cover material up through the Monday after it is distributed. **ABSOLUTELY NO LATE HOMEWORK WILL BE ACCEPTED!** If you must miss a due date because of University business, it is your responsibility to make sure the homework gets to me *before* the due date. However, to calculate your semester-long homework average, I will drop your two lowest homework scores.

Though you may not copy directly from another's paper or use someone else's ideas (including online aids) as your own<sup>1</sup>, I encourage you to discuss the homework problems with your classmates. Model homework solutions will be posted online after the assignment is due. Hopefully these will assist you in learning the material.

Homework assignments should be folded like a book with the following information on the "front cover":

Name  
Math 302-010—Edwards  
Assignment Number  
Date

You will turn in your assignments this way so that I may put your grade on the inside, thus ensuring your privacy. I will make every effort to ensure that your graded homework is returned in a timely manner.

Each homework assignment will consist of ten questions. Of those, some randomly selected problems will *not* be graded. For these questions, you will receive one point if you attempted the problem. For the problems that will be graded, you may receive up to four points, depending on the completeness and accuracy of your solution.

Obviously, I can assign only a select few homework problems to be turned in. Therefore, I choose ones which, if mastered, show adequate understanding of the material. The examinations will largely be based on the material covered in the homework assignments. However, you are encouraged to try other problems in the book for practice.

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<sup>1</sup> For more details regarding academic dishonesty, see the Student Handbook (<http://www.udel.edu/stuguide/>).

## **Exams**

There will be four exams in the course; the dates are listed on the attached schedule. **You will need a small blue book for each exam. NO MAKEUP EXAMS WILL BE GIVEN!** The first three will be 50 minutes long and will take place during a regular lecture period. The final exam will be two hours long. Each exam will contain problems which must be done using Mathematica.

When the exams are returned, they will have a numerical score and a letter grade on them. The numerical score is your score for the exam; *the letter grade is your grade for the course to that point, including all homework scores.*

Attached to each examination will be a course evaluation form, so that I may receive your suggestions for how the course could be improved.

## **Assessment**

Your grade for the course will be determined in two stages. First your *raw score* will be calculated using the *higher* of the two algorithms:

- 1) The exams will count for 90% of your grade (final counts double), and the homework counts 10%.
- 2) The exams will count for 80% of your grade (final counts double), and the homework counts 20%.

Therefore, performing well on the homework will not only help you learn the material, it can also directly help your grade. (The vast majority of students improve their grades by using their homework scores.) Then each of the raw scores will be scaled to determine final grades.

## Tentative Schedule

**Note:** This is only a tentative schedule; there may be deviations from it.

August 28–30: Sections 1.1, 2.1

August 28: Homework 1 distributed

### **September 2: Labor Day**

September 4–6: Sections 2.1, 2.2, 2.4, 2.5

week of September 9: Sections 2.5, 2.7, 3.1, 3.2, 8.1

September 13: Homework 1 due; homework 2 distributed

week of September 16: Sections 3.2, 3.3, 4.1, 4.2

September 20: Homework 2 due; homework 3 distributed

week of September 23: Sections 3.3–3.5, 4.2

September 27: Homework 3 due; homework 4 distributed

week of September 30: Sections 3.5, 3.6

**October 2: Exam I** (covers chapters 1, 2, 4, sections 3.1–3.3, 8.1)

week of October 7: Sections 3.6–3.8, 7.1–7.3

October 11: Homework 4 due; homework 5 distributed

week of October 14: Sections 7.2–7.5, 9.1

October 18: Homework 5 due; homework 6 distributed

week of October 21: Sections 7.5, 7.6, 7.8, 7.9, 9.1

October 25: Homework 6 due; homework 7 distributed

**October 28: Exam II** (covers sections 3.4–3.8, 7.1–7.5, 9.1)

October 30–November 1: Sections 6.1, 6.2, 9.7

week of November 4: Sections 6.1–6.4

November 8: Homework 7 due; homework 8 distributed

week of November 11: Sections 5.4, 6.3–6.6, 10.5

November 15: Homework 8 due; homework 9 distributed

week of November 18: Sections 10.2, 10.3, 10.5

**November 22: Exam III** (covers chapter 6, sections 7.6, 7.8, 7.9, 9.1, 9.3, 9.7)

### **week of November 25: Thanksgiving Break**

week of December 2: Sections 10.2–10.5, 11.1

December 6: Homework 9 due; supplemental study material distributed

December 9: Formal review session

December 13: Informal review session

**December 15: Final Exam** (covers entire class, but especially chapter 10, sections 5.4, 11.1)

Course Web Page:

