Math 2410Q, Section 013

Elementary Differential Equations
Department of Mathematics

Syllabus – Fall 2026

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

Course Title: Elementary Differential Equations for Applications
Credits: 3
Format: Lecture
Prerequisites: MATH 1132
Course Meetings: Monday, Wednesday, and Friday, 11:15 AM – 12:05 PM, MONT 321
Professor: Maxim Derevyagin
Email: maksym.derevyagin@uconn.edu
Telephone: (860) 486-1288
Office Location: MONT 310
Office Hours/Availability: Monday 4pm-5pm, Wednesday 9:30am-10:30am and 4pm-5pm. I can usually respond to an email within 48 hours.

Course Materials

We will mostly follow the suggested textbook: *A First Course in Differential Equations with Modeling Applications*, 12th Edition, by Dennis G. Zill.

Suggested Software (to be used for visualizations and checking solutions in class; the corresponding files will be posted on HuskyCT)**:** *Mathematica*. Mathematica and Wolfram|Alpha Pro are available at no charge to UConn students. They are useful for solving technical problems, obtaining step-by-step solutions, and much more. To get access, go to wolfram.com/siteinfo and enter your UConn email. Learn how to use Mathematica at wolfram.com/wolfram-u/

AI: Students are encouraged to use AI tools such as Microsoft Copilot and ChatGPT as learning aids for studying, checking solutions, generating practice problems, and exploring course concepts. Students remain responsible for the accuracy of their work and their own understanding of the material. AI may not be used on quizzes, exams, or other assessments where its use is prohibited. AI may also be used by the instructor for instructional purposes.

Course Description

Qualitative, analytical, and numerical methods for first- and second-order single ordinary equations as well as first-order constant coefficient linear systems and some special nonlinear systems. Laplace transform and its application to differential equations.

Course Objectives

By the end of the semester, students should be able to solve a variety of differential equations on their own and using the mathematical software. Also, they should be able to employ concepts and theories learned in class in order to solve some applied problems.

Tentative Course Outline

We will go over the following:

Sections 1.1-1.3, 2.1-2.6, 3.1-3.3, 4.1, 4.3, 4.4, 4.6, 5.1, 7.1-7.4, B.1-B.3, 8.1-8.2

Course Review: December 7th – December 11th.

Course Requirements and Grading

Summary of Course Grading:

Course Components	Weight
In-class activities	10%
Homework	20%
2 Midterm Exams	20%+20%=40%
Final Exam	30%
Total	***100%***

In-class activities:

Most class meetings will include a short in-class activity. These activities provide an opportunity to practice problem-solving techniques, check understanding, and engage with the material as it is being introduced. Students will submit their work electronically via Gradescope before the end of class. Credit is awarded primarily for meaningful participation and a good-faith effort rather than mathematical correctness. The activities are intended to support learning and provide opportunities for guided practice, rather than serve as formal assessments. To accommodate occasional absences, technical difficulties, or other unforeseen circumstances, several of the lowest activity scores will be dropped.

Quizzes/Homework:

Homework will be assigned at the end of the week, but it will not be collected and graded. Instead of that, there will be 5 in-class quizzes, and the quiz problems will be taken from the homework. The lowest quiz score will be dropped. Each quiz will be worth 25 points and, therefore, the quiz total is 100 points.
*Tentative quiz dates are September 11th, September 25th, October 23rd, November 6th, and December 9th (**the first four are Fridays and the last one is Wednesday**!)*

Midterm Exams:

There will be two midterm exams. To support your success, if it helps your grade, the lower midterm score can be replaced by a score based on your final exam.
Tentative test dates are October 9th and November 20th(both are Fridays)

Final Exam:
The final exam is cumulative.
The final exam date is TBA

Grading Scale:

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

Student Responsibilities and Resources

As a student enrolled in this class you must be aware that

- You should attend all class meetings, and you are responsible for the material that you missed due to absences. So, it is always a good idea to know a couple of your classmates.
- Quizzes and exams are closed-book assessments. Notes, textbooks, calculators, electronic devices, AI tools, and any other unauthorized materials are not permitted.
- Cell phones, laptops, and other electronic devices that might cause disruption should be turned off or silenced before class begins.
- There are no make-up assessments of any form (that is, no make-up quizzes, no make-up tests) as the grading system of this course is developed in a way that a student can miss a test and a quiz and still succeed in this course.

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
  - Academic Integrity
  - Resources on Avoiding Cheating and Plagiarism
- Statement on Absences from Class Due to Religious Observances and Extra-Curricular Activities
- Policy Against Discrimination, Harassment and Related Interpersonal Violence

Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.