MATH 2410Q (017): Elementary differential equations
Spring 2026

Course and instructor information

Course: MATH 2410Q - Elementary differential equations
Credits: 3
Format: in-person
Meets: (017) MWF 10:10am-11:00am, MONT 226
: **Prerequisites:** MATH 1132Q, 1152Q, or 2142Q. Recommended preparation: A grade of C- or better in MATH 1132Q; MATH 2110Q or 2130Q. Cannot be taken after MATH 2144Q, 2420Q, 2720, 3146, 3150, 3410, 3412, 3510, 3710.

Instructor: Alec Wendland
Email: alec.wendland@uconn.edu
Office hours: (MONT 115) Mon. 12:30pm-2:00pm, Tues. 11:00am-noon, or by appointment

Course Materials

Textbook. Dennis G. Zill, *A first course in differential equations with modeling applications*, 12th ed., Cengage Learning, Boston, MA, 2024. With WebAssign access (see below).

WebAssign. You will also need to purchase access to WebAssign in order to complete the homework for this course. If you have previously taken a calculus course at UConn, you are already familiar with this system and may already have access. Access comes with the Husky book bundle or can be purchased (along with the eBook) at the UConn bookstore.

Course Description and Objectives

Description. Introduction to ordinary differential equations and their applications, linear differential equations, systems of first order linear equations, numerical methods.

Student learning objectives.

(1) Define, identify, and classify an ordinary differential equation (ODE);
(2) Determine when a first-order initial value problem (IVP) has a (unique) solution;
(3) Basic solution methods for first-order ODE: separation of variables, integrating factors, undetermined coefficients, etc.;
(4) Interpret ODE models and their solutions in the context of real-world phenomena;
(5) Identify and solve systems of first-order linear ODE; reduce higher-order linear equations to a system of first-order equations.

Grading

There are 4 categories of graded assignments in this course: exams (4 midterms and a final, see below), homework, activities, and projects.

Final percent grade	Letter grade
$[92.5, 100]$	A
$[89.5, 92.5)$	A-
$[86.5, 89.5)$	B+
$[82.5, 86.5)$	B
$[79.5, 82.5)$	B-
$[76.5, 79.5)$	C+
$[72.5, 76.5)$	C
$[69.5, 72.5)$	C-
$[66.5, 69.5)$	D+
$[62.5, 66.5)$	D
$[59.5, 62.5)$	D-
$[0, 59.5)$	F

Assignment	Percentage of final grade
Homework	15%
Activities	10%
Projects	10%
Midterm Exams	$15\% \times 3 = 45\%$
Final Exam	20%

Math 2410Q grading scale and summary of graded assignments

Exams. There will be 4 midterm exams (see dates in calendar below) and a final exam. You will notice in the table above that only 3 midterms are included in your final grade; this is because **your lowest midterm score will be dropped.** Each (graded) midterm exam will be worth 15% of your final grade and will cover the material learned in class since the last midterm. The final exam will be worth 20% of your final grade and will be cumulative. **You are allowed a 1-page, single-sided, handwritten "cheat sheet" on each of the exams, along with a calculator up to TI-86 capability or below.** No other resources/devices (textbook, other notes, phones, etc.) are allowed on exams.

FINAL EXAM INFORMATION: 6 MAY 2026, 3:30-5:30PM, ARJ 143

Homework. Mathematics is best learned with consistent effort over time. Most of this effort is put in outside of the classroom.

Homework for this class will be completed online over WebAssign, which you can access through this course's HuskyCT page. Homework will be due Friday nights at 11:59pm, starting in Week 2 of the course. Material covered in Week k will be due on Friday of Week $k+1$. Please do not wait until Friday night to start the assignment, as extensions likely won't be given (see late work policy below), and it's more likely you'll get questions answered from me if you ask earlier.

Activities. At the end of every Wednesday class, you will be given a brief (1-2 problems, 15-20 min.) activity to complete. You should really probably think of these as quizzes, as the problems will be similar to the problems you will see on the exams. **Activities will be completely open book/note/Internet, and you are highly encouraged to work in small groups.** These will be graded for completion only, with solutions presented at the beginning of every Friday class.

Projects. You will be assigned small projects throughout the semester (probably 1 for each midterm exam). Each project will focus on applying some of the things we learn in the class to real-world applications/problems. The "goal" of the projects is as follows. Most students in this course are some type of ENG/physics major. For you, or any of you in another physical or social science major, it is really more important to learn to say something qualitative about models involving ODEs, solution behavior/properties/characteristics, etc. than it is to learn another technical solution method. The aim of these projects is to emphasize more of this qualitative/conceptual side

of ODEs than the homework/activities/exams and reinforce some of the topics learned in class. Hopefully these will be kind of fun to work on as well.

Projects will be graded on a simple 3-point scale:

- 0: did not attempt
- 1: turned something in, but barely tried
- 2: overall understanding/effort evident; some minor errors
- 3: mostly correct, solid understanding of material

LATE/MAKEUP POLICY

It is your responsibility to submit your work on time and show up to class on activity/exam days. Deadlines are important for a couple of reasons: first, it shows that you can manage a given workload according to instructions, and second, it allows me to grade and return your work to you in a reasonable amount of time. To this end, you should make an effort to respect deadlines for your assignments. **Late submissions on WebAssign homework and projects will not be accepted.** If you feel like you need more time on an assignment, it is your responsibility to reach out to me ahead of the deadline and ask for an extension. Please note that extensions are unlikely except for extenuating circumstances as this course is very fast-paced.

Since one midterm score is dropped, makeup exams will only be given in cases of *documented* extenuating circumstances (illness with doctor's note, family emergency, university-sanctioned travel, etc.). If you miss an exam, you must **notify me as soon as possible, and within** 24 **hours of the exam, to request a makeup.** Makeups will be held within 1 week of the original exam.

ACADEMIC INTEGRITY

All students are expected to act in accordance with UConn's academic integrity policy for undergraduate students, which can be found here.

Cheating policy. Exams are closed-book and closed-note with the exception of your cheat sheet; I want to assess what you know about ODEs on exam day. Any evidence of cheating (copying, phone, etc.) will result in a score of 0 on that exam and possible academic sanctions.

Course sharing/student tutoring websites. Posting course material (e.g., homework problems, project questions) on course sharing/student tutoring websites (e.g., Chegg, Course Hero) may be a violation of my intellectual property and the academic integrity policy.

Artificial intelligence (AI) policy. UConn's Office of Community Standards defines "plagiarizing" as follows:

> Using one's own previously published, presented, or disseminated material, or another person's language/text, data, ideas, expressions, digital/graphic element, passages of music, mathematical proofs, scientific data, code, or other original material without authorization of the originating source or proper acknowledgement, attribution, or citation of the originating source. [1]

Generative AI aggregates the ideas and materials of many researchers without giving them credit and constructs an argument based off these findings. Consequently, submitting AI-generated work as if it were your own is an act of plagiarism inasmuch as it involves claiming others' work as your own. For these reasons, **the use of generative AI is prohibited in this class on any of the graded assignments.** Using AI tools for grammar checking or studying examples is permitted, but not for generating solutions or written submissions. Evidence of the use of AI in any other context on any assignment will result in a score of 0 on that assignment and possible academic sanctions.

[1] https://community.uconn.edu/academic-scholarly-and-professional-integrity-misconduct/

Your WebAssign homework is graded automatically; however, you are highly encouraged to complete your homework on your own, that is, without consulting Chegg, GPT, Gemini, etc. This is how you will get the most value out of your education and I promise you will get much more out of the class. Remember that you are paying to receive an education in order to achieve a better career for yourself. Please be accountable in your learning.

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. 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/.

TL;DR / POSSIBLE ANSWERS TO FAQ / PERSONAL SUGGESTIONS FOR THIS COURSE

- Activities/exams are always on Wednesdays, WebAssign homeworks are always due on Friday nights, projects are *probably* going to be due on exam days.
- I will do my best to post updated notes on HuskyCT after each lecture. These will probably be the most useful resource for you aside from the textbook.
- I will also do my best to post each project at the beginning of each "unit." E.g., I will try to make project 2 available at the beginning of Week 5 or 6.
- The best way to contact me is by email – I will try to respond within 24 hours.
- Please don't hesitate to visit me in office hours if you feel like you are falling behind, stuck on a topic, or just want to talk through an assignment. Office hours are in general a great resource in your college career. Your professors are the cheapest and usually most supportive and helpful resource you have in helping you pass your classes. You should take advantage of the time they make available to you.
- You should care about your grade all semester. Take initiative and be proactive in your learning – don't wait until the last minute before an exam to clear something up, don't wait until the end of the semester to submit missing work or ask how to get your grade up, etc. There is no extra credit in this class and late work is not accepted.
- This is a very fun class (I only liked linear algebra better in undergrad) but is very fast-paced and is exam-heavy. I am happy to help you in your learning, but this is a 2000-level math class, so you should expect to spend a few hours outside of class each week reviewing notes, studying, doing example problems, etc. Mathematics is best learned with regular practice over time and most of this happens outside of the classroom. You will get out of this class what you put in both learning-wise and grade-wise.

(TENTATIVE) COURSE CALENDAR

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Changes from the previous syllabus are in red. All optional sections were removed. A: Activity, HW: WebAssign Homework, P: Project.

Week	Dates	Sections Covered	Assignments Due
1	1/19–1/23	1.1–1.2	A1
2	1/26–1/30	1.3, 2.1–2.2	A2, HW1 (1.1–1.2)
3	2/2–2/6	2.3–2.4	A3, HW2 (1.3, 2.1–2.2)
4	2/9–2/13	2.2–2.3	A4, HW3 (2.3–2.4)
5	2/16–2/20	2.4–2.5	**Exam 1 W 2/18** (Ch. 1&2), P1, HW4 (2.4)
6	2/23–2/27	2.5–2.6	A5, HW5 (2.5)
7	3/2–3/6	2.6 – 3.1 (skip 3.3)	A6, HW6 (2.6)
8	3/9–3/13	3.1 – 3.2	**Exam 2 W 3/11** (2.4–2.6, 3.1–3.2), HW7 (3.1, 3.2)
—	3/16–3/20	Spring break	—
9	3/23–3/27	4.1, 4.3	A7, HW8 (4.1)
10	3/30–4/3	4.3 – 4.4	A8, HW9 (4.3)
11	4/6–4/10	4.4, 4.6, B.1	P2, A9, HW10 (4.4, 4.6)
12	4/13–4/17	B.1 – B.3	**Exam 3 W 4/15** (Ch. 4), HW11 (B.1)
13	4/20–4/24	8.1 – 8.3	A10, HW12 (B.3, 8.1)
14	4/27–5/1	Exam review	**Exam 4 W 4/29** (Ch. B&8), P3, HW13 (8.2)
—	5/4-5/9	Final Exams	**Final Exam: 5/6 3:30pm-5:30pm ARJ 143**

•Due to the week of snow days, we will not be able to complete chapter 7, Laplace transforms. If time permits after the “systems" unit (B&8), we will introduce the idea.