Syllabus: Elementary Differential Equations
MATH 2410Q, Fall 2026

Important! There is no time to waste. Let's start talking this week. Please reach out to me before/after class.

Dr. Griff Elder (you can call me Griff) Office: MONT 305 *griff.elder@uconn.edu*

Problem Solving Sessions: (Office hours in a classroom)
Tues/Thurs 2:00pm – 3:00pm in MONT 420.
Wednesday 3:30pm – 4:20pm in MONT 104.

Materials: *A first course in differential equations with modeling applications* by Dennis G. Zill, 12th edition that comes bundled with a WebAssign code for online homework.

Requirements:

2 Exams: 50 points each	=	100
1 Final Exam: 75 points	=	75
Quizzes	=	40
WebAssign	=	+20
		235

Grading Scale: $93-100\%$ A, $90-92.9\%$ A-, $87-89.9\%$ B+, $86.9-83\%$ B, etc.

Grading Disputes must be addressed within 1 week after an exam/quiz has been returned.

Description of Work: The rule of thumb is that for each hour in class you must spend three hours outside of class doing homework, reading ahead, and preparing for the next class. I plan to spend class time answering questions, clarifying issues and presenting the material from alternate perspectives. *BUT... and this is important!* My presentations will *not* be encyclopedic. *And yet*, you are responsible for all the material in each section we cover.

Exams: Exam 1 covers Unit 1: §§1.1, 1.2, 2.1 – 2.6, 3.1, 3.2, 4.1. Exam 2 covers Unit 2: §§4.2 – 4.4, 4.6, 7.1–7.4, 3.3. Final Exam is culmulative. It covers Units 1, 2 and Unit 3: §§B.1 – B.3, 8.1, 8,2.

Quizzes: An in-class quiz will be given almost every Thursday (see schedule).

We cover a lot of material. It can feel overwhelming. Unless you stay one top of it.

Homework: WebAssign is accessed through HuskyCT. This is where you learn the material. Please try to do the assignment the day we cover the material. Webassign due dates are set for a week after the material is covered.

Artificial Intelligence Tools: Don't use them for this course, both because they are not allowed and because they will not help you learn the material.
Do come to the Problem Solving Sessions!

Groups: When the going gets rough, we need a friend. We all do. Additionally, you can learn more from each other than you will from me. To help this happen, I will put you into

groups of three or four. Purpose? To encourage (but not require) you to work and study together.

Finally:

(1) If you have a question, ask immediately. Confusion doesn't get better with time.
(2) You are expected to attend regularly. If you miss class, it is your responsibility to be fully aware of everything discussed in class and to turn all work in when due.

Course Policies

Exam Replacement Policy. In this course, Exam 1 covers Unit 1, Exam 2 covers Unit 2, and the Final Exam covers Units 1, 2, and 3. If you perform poorly on Exam 1 or 2, your Exam 1 or 2 grade can improve, depending upon how you perform on Units 1 and 2 on the Final Exam. The details: Your final score for Exam 1 (and similarly for Exam 2) will be recorded as the *higher* of (i) your actual Exam 1 score and (ii) the **average** of your Exam 1 score and the Unit 1 portion of your Final Exam. Thus, if you improve your score on Unit 1 material on the Final compared to Exam 1, your recorded Exam 1 score will increase. This will be implemented *automatically* for all students.

Make-Up/Late Policy.

Quizzes: The are no make-up quizzes provided. Instead I will count your best 8 quizzes out of the 10 total. This allows you flexibility to miss two quizzes on account of illness or personal obligations.

Exams: If there is an approved reason for you to not take an exam at its designated times, you must notify me *in advance of the exam* to make arrangements. Arrangements for a make-up test will be considered on a case by case basis. Failure to contact the instructor as stated above will result in a grade of zero on the exam.

Academic Integrity. It is in your best interest to maintain academic integrity. Any form of academic dishonesty undermines the goals of our course and devalues the learning process. Academic dishonesty is a serious offense at UConn and can result in a zero grade on an assessment and/or failure in the course.

Accommodations for 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/.

Changes to the Course Syllabus. The information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice.

Schedule
Math 2410Q, Fall 2026

	Tuesday	Thursday
Week 1 31-Aug	§1.1 Definitions & terminology §1.2 Initial-Value Problems	§2.2 Separable equations *Quiz 0. Integration*
Week 2 7-Sep	§2.1 Solution curves §2.6 A numerical method (Euler's)	§2.3 Linear equations *Quiz 1*
Week 3 14-Sep	§1.3 Diff. Eqns as Math Models §2.4 Exact equations	§2.5 Solutions by substitutions *Quiz 2*
Week 4 21-Sep	§3.1, §3.2 Linear & nonlinear models	§4.1 Prelim. theory – Linear eqns. & §4.3 *Quiz 3*
Week 5 28-Sep	§4.2 Reduction of order & §4.3	§4.3 Homogen. lin. eqns. –const. coeff *Quiz 4*
Week 6 5-Oct	Review	Exam #1 §§1.1, 1.2, 2.1–2.6, 3.1, 3.2, 4.1.
Week 7 12-Oct	§4.4 Undetermined coefficients – Superposition approach.	§4.6 Variation of parameters *Quiz 5*
Week 8 19-Oct	§7.1 Defn. Laplace Transform	§7.2 Inverse transforms & of derivs *Quiz 6*
Week 9 26-Oct	§7.3 Operational properties I	§7.4 Operational properties II *Quiz 7*
Week 10 2-Nov	§3.3 Modeling with Systems of DEs	B. Matrices: §B.1 Defns. & Theory *Quiz 8*
Week 11 9-Nov	§B.2 Gauß, Gauß-Jord. elim. §B.3 The eigenvalue problem	§8.1 Prelim. theory – Lin. systems *Quiz 9*
Week 12 16-Nov	Review	Exam #2 §§4.2 – 4.4, 4.6, 7.1 – 7.4, 3.3
Week 13 23-Nov	Thanks	giving
Week 14 30-Nov	§8.2 Homogeneous linear systems	Phase Portraits *Quiz 10*
Week 15 7-Dec	Review	Review
FINALS 14-Dec	Final exam: date/time TBD	

Notice. The material covered in the week immediately before an exam doesn't appear on that exam. This way, all the material is quizzed before you see it on an exam.