Syllabus for Math 2410Q: Elementary Differential Equations Sections 006 and 012

Instructor: Andrew Davis

Fall 2026

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Class Hours: Section 006 meets Monday, Wednesday, and Friday, 11:15 AM-12:05 PM, in MONT 319
Section 012 meets Monday, Wednesday, and Friday, 12:20-1:10, in MONT 321
Office Hours: 1-3 PM on Tuesdays, 2-3 PM on Wednesdays,
or by appointment with 24 hours notice.
Personal Office: MONT 404

Prerequisites: MATH 1132Q, 1152Q, or 2142Q.

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

Topics Covered Include: Initial-value problems, separable equations, linear equations, exact equations, Euler's method, linear and non-linear models, variation of parameters, Laplace transforms, homogeneous linear systems.

Textbook and Course Materials: A First Course in Differential Equations with Modeling Applications, 12th Edition, by Dennis G. Zill.

We will be using WebAssign for homework, please be sure to purchase access to WebAssign using the instructions on HuskyCT if it did not come with your Husky Book Bundle. WebAssign comes with a copy of the eText.

Calculator Policy: Calculators are not permitted on quizzes or exams. The problems will be written so that they are not necessary.

Course Structure

Exams: There will be two midterm exams, along with a cumulative final exam. The lowest midterm score will be replaced by the score on the corresponding section of the final exam if it is higher.
The tentative exam dates are in the class schedule file, and the final exam date is to be determined by the registrar. You are expected to be available during finals week.

Quizzes and Homework: I will assign homework on WebAssign and give weekly quizzes according to the course calendar below. Homework is not for a grade, but the quiz questions will be selected from the homework questions, so it is in your best interest to do the homework! I will drop the lowest 2 quizzes at the end of the semester.

Make-up Policy: Due to the drop-quiz policy, there will not be make-up quizzes. Make-up exams will only be given in extreme circumstances (with documentation), and must be taken within a week of the original exam.

Grading Policy

Quizzes: 20%
Two Midterms: 25% each
Final Exam: 30%

Grading Scale

(Final grades will be rounded up to the nearest letter grade only if they are within 0.5%)

- A 93-100%
- A- 90-93%
- B+ 87-90%
- B 83-87%
- B- 80-83%
- C+ 77-80%
- C 73-77%
- C- 70-73%
- D+ 67-70%
- D 63-67%
- D- 60-63%
- F 0-60%

Policy on Academic Integrity: Academic misconduct harms the integrity of the education and certification that you and your classmates receive. Misconduct can include unauthorized communication with others on a quiz or exam, passing off another person's work as your own, or using unauthorized electronics or materials on a quiz or exam. The official university policy can be found at the academic integrity policy website.

Policy Against Discrimination, Harassment and Related Interpersonal Violence:
The University is committed to maintaining a safe and non-discriminatory learning, living, and

working environments for all members of the University community – students, employees, or visitors. Academic and professional excellence can flourish only when each member of our community is assured an atmosphere of mutual respect. All members of the University community are responsible for the maintenance of an academic and work environment in which people are free to learn and work without fear of discrimination or discriminatory harassment. In addition, inappropriate amorous relationships can undermine the University's mission when those in positions of authority abuse or appear to abuse their authority. To that end, and in accordance with federal and state law, the University prohibits discrimination and discriminatory harassment, as well as inappropriate amorous relationships, and such behavior will be met with appropriate disciplinary action, up to and including dismissal from the University. Additionally, to protect the campus community, all responsible employees (including faculty), as outlined in the Policy Against Discrimination, Harassment and Related Interpersonal Violence, are required to report to the Office of Institutional Equity any information that they receive related to sexual assaults, intimate partner violence, and/or stalking involving a student. An exception to this reporting exists if students disclose information as a part of coursework submitted to an instructor in connection with a course assignment. Even in the absence of such obligation, all Employees are encouraged to contact OIE if they become aware of information that suggests a safety risk to the University community or any member thereof. The University takes all reports with the utmost seriousness. Please be aware that while the information you provide will remain private, it will not be confidential and will be shared with university officials who can help. More information, including confidential and exempt employee resources available for support and assistance, can be found at equity.uconn.edu and titleix.uconn.edu.

Statement on Absences from Class Due to Religious Observances and Extra-Curricular Activities:
Faculty and instructors are expected to reasonably accommodate individual religious practices unless doing so would result in fundamental alteration of class objectives or undue hardship to the University's legitimate business purposes. Such accommodations may include rescheduling an exam or giving a make-up exam, allowing a presentation to be made on a different date or assigning the student appropriate make-up work that is intrinsically no more difficult than the original assignment. Faculty and instructors are strongly encouraged to allow students to complete work missed due to participation in extra-curricular activities that enrich their experience, support their scholarly development, and benefit the university community. Examples include participation in scholarly presentations, performing arts, and intercollegiate sports, when the participation is at the request of, or coordinated by, a University official. Students should be encouraged to review the course syllabus at the beginning of the semester for potential conflicts and promptly notify their instructor of any anticipated accommodation needs. Students are responsible for making arrangements in advance to make up missed work.

For conflicts with final examinations, students should contact the Dean of Students Office. Faculty and instructors are also encouraged to respond when the Counseling Program for Intercollegiate Athletes (CPIA) requests student progress reports. This will enable the counselors to give our students appropriate advice.

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.

Math 2410Q Fall 2026 Calendar

Weeks	Section(s) Covered	Topics
Aug 31 Sep 2 Sep 4	1.1 1.2 1.3	Definitions and Terminology Initial-Value Problems Diff. Equations as Mathematical Models
Sep 7- NO CLASS Sep 9 Sep 11-Quiz 1	2.1 2.2	Solution Curves without a Solution (Direction Fields/Autonomous) Separable Equations
Sep 14 Sep 16 Sep 18-Quiz 2	2.3 2.4	Linear Equations Exact Equations
Sep 21 Sep 23 Sep 25-Quiz 3	2.5	Solutions by Substitution
Sep 28 Sep 30 Oct 2-Exam 1	2.6	Euler's Method
Oct 5 Oct 7 Oct 9-Quiz 4	3.1 3.2 3.3	Linear Models Nonlinear Models Modeling with Systems of First-Order Equations
Oct 12 Oct 14 Oct 16-Quiz 5	4.1 4.3	Preliminary Theory-Linear Equations Homogeneous Linear Equations with Constant Coefficients
Oct 19 Oct 21 Oct 23-Quiz 6	4.4 4.6	Undetermined Coefficients-Superposition Approach Variation of Parameters
Oct 26 Oct 28 Oct 30-Quiz 7	5.1 7.1	Linear Models: Initial-Value Problems (Spring/Mass Systems, Circuits) Definition of the Laplace Transform
Nov 2 Nov 4 Nov 6-Quiz 8	7.2 7.3	Inverse Transforms and Transforms of Derivatives Operational Properties 1
Nov 9 Nov 11 Nov 13-Exam 2	7.4	Operational Properties 2
Nov 16 Nov 18	B.1 B.2	Basic Definitions and Theory

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Nov 20-Quiz 9	B.3	Gaussian and Gauss-Jordan Elimination The Eigenvalue Problem
NO CLASSES Nov 22-29		
Nov 30 Dec 2 Dec 4-Quiz 10	8.1 8.2	Preliminary Theory-Linear Systems Homogeneous Linear Systems
Dec 7 Dec 9 Dec 11	Leftover material/additional topics if time permits Review for Final	