

MATH 383

First Course in Differential Equations

Spring 2026

Instructor

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Class Information

Time: MWF 2:30–3:20
Classroom: Phillips Hall 332
Credit Hours: 3
Prerequisites: MATH 233 or 235

Course Description Introductory ordinary differential equations, first- and second-order differential equations with applications, higher-order linear equations, systems of first-order linear equations (introducing linear algebra as needed).

My plan for now is to cover content corresponding approximately to chapters 1,2,3,4,7 and time permitting some of chapters 8 and 11 in the textbook.

Textbook *Elementary Differential Equations and Boundary Value Problems* by Boyce and DiPrima. It is not mandatory to buy the book. If you wish to buy a copy, it is not necessary that you have the most recent edition. There are other suitable books which cover the same content. If you have or wish to buy one of these, that is fine. You can ask me about whether a particular book is suitable. I will also be posting my handwritten lecture notes as we go through the course. You may still find it helpful to refer to a textbook for some topics or for a different or more comprehensive point of view.

Homework There will be two kinds of homework assignments. There will be online homework through Edfinity, where you will have to purchase an access code. This should be linked through canvas. There will also be small written homework assignments from time to time.

These can be handwritten or typed will be turned in at the beginning of class. Late homework will not generally be accepted.

Exams There will be two midterm exams. They will take place during the ordinary class time on February 13th and on April 1st. The final exam will be on April 29th from 8 to 11AM. A missed midterm will be replaced by the final exam in the calculation of grades.

Grading Your final grade will be computed from a weighted average of categories as follows: 25% from Homework, 20% from each midterm, 35% from the final exam. Letter grades will be obtained from numerical grades with the following cutoffs.

| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|---|
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | F |
| 92 | 88 | 84 | 80 | 76 | 72 | 68 | 64 | 60 | 52 | 0 |

This means that 92.0 is the lowest A, 88.0 is the lowest A-, etc. There is no rounding.

1 Policy Statements

University Class Attendance Policy As stated in the University's Class Attendance Policy, no right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities: University Approved Absence Office (UAAO) website provides information and FAQs for students and FAQs for faculty related to University Approved Absences
2. Disability/religious observance/pregnancy/short-term military service, as required by law and approved by the University Compliance Office , or in the case of short-term military service, the Dean of Students
3. Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the University Compliance Office.

Code of Conduct All students are expected to adhere to University policy and follow the guidelines of the UNC Student Code of Conduct. Additional information can be found at <https://studentconduct.unc.edu/>.

Artificial Intelligence (AI) Use Policy All Carolina students are expected to follow these AI guidelines:

1. AI should help you think, not think for you. You may be able to use these tools to brainstorm ideas, research topics, and analyze problems, but you must decide what's appropriate and accurate.

2. Engage responsibly with AI. You must evaluate AI-generated outputs for potential biases, limitations, inaccuracies, false output, and ethical implications. Do not put personal or confidential data into these tools.
3. The use of AI must be open and documented. You should declare, explain, and cite any use of AI in the creation of your work using applicable standards (e.g., APA, MLA, course guidelines). Understand that you are ultimately 100% responsible for your final product.
4. Follow specific AI guidelines in this syllabus. If you are unsure, check with me. Guidance offered in this syllabus would be referenced should an issue be referred to Student Conduct for alleged academic misconduct.
5. *You should not use AI to do your homework for you*

Syllabus Changes The instructor reserves the right to make changes to the syllabus including project due dates and test dates. These changes will be announced as early as possible.

University Compliance Office (formerly Equal Opportunity and Compliance) - Accommodations University Compliance Office (UCO) Accommodations Team (Accommodations - UNC Compliance) receives requests for accommodations for disability, pregnancy and related conditions, and sincerely held religious beliefs and practices through the University's Policy on Accommodations. UCO Accommodations team determines eligibility and reasonable accommodations consistent with state and federal laws.

Counseling & Psychological Services (CAPS) UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The Heels Care Network website is a place to access the many mental health resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to the CAPS website or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

Title IX Resources Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the UCO or by contacting the University's Title IX Coordinator, Elizabeth Hall, or the Report and Response Managers in the University Compliance Office (UCO) (formerly the Equal Opportunity and Compliance Office). Please note that I am designated as a Responsible Employee, which means I must report to the UCO any information I receive about the forms of misconduct listed in this paragraph. If you'd like to speak with a confidential resource, those include Counseling and Psychological Services, the University's Ombuds Office, and the Gender Violence Services Coordinators. Additional resources are available at safe.unc.edu.