Mathematics 2400: Calculus 3, Fall 2024 Syllabus

Class Meetings. MTWThF
Instructor. Varies by section.
Office Hours. Varies by section.
Office. Varies by section.
Course Teaching Assistant. Varies by section.
Course Learning Assistant. Varies by section.

Course Information:

Prerequisites:
MATH 2300 or APPM 1360 (minimum grade C-). Degree credit not granted for this course and APPM 2350.

Textbook and WebAssign Access:
We will use the textbook "Calculus - Early Transcendentals", 9th Edition, by James Stewart.

CU Book Access, CU Boulder's equitable access course materials program, provides degree-seeking undergraduate students access to all of their required course materials before the first day of class for a flat-rate price.

The cost of the program for the 2024-25 academic year will be $269 (plus tax) per semester, fall and spring.

Materials in this program are provided in a digital first format on or before the first day of class via Canvas, CU Boulder's online learning platform. Should a particular class require print materials, students will receive an email letting them know they have a pick up at the CU Book Store or this information can be found on their My Course Materials tab in Canvas.

You can read about the benefits of this program, learn how the program works and answers frequently asked questions.

Required Equipment and Software:

- **Smart phone (or tablet) and scanner app:** So that you can submit written assignments online as a single PDF file, you should download a scanner app for your smart phone or your internet-connected tablet, if your smart phone or tablet does not already have one. Many of these apps are available for free, such as Genius Scan or CamScanner. You must have this device accessible both in class and out of class.

- **Calculators and other technology:** You must have a device that is capable of graphing functions and doing numerical integration. You do not need to purchase a graphing calculator. We will be using Mathematica periodically for graphs and computations, which you can download for free through the University's subscription or use the cloud version at https://www.wolframcloud.com. Your TA will send you more information on this. Absolutely no such devices will be allowed on exams.
- **Other:** You will receive more information about software that will be used for in-class activities and projects. This software will be free to you, either open source or through the University's subscription.

Note: If the university determines at some point during the semester that all classes must switch to remote, then you may be required to have additional equipment, such as a working webcam.

Canvas:
See our course's Canvas https://canvas.colorado.edu for up-to-date course information, exams, homework assignments, a link to WebAssign, the course schedule, lists of instructors and Graduate Teaching Assistant, a copy of this syllabus, and links to additional resources.

Course Structure:

Research shows that people learn mathematics best when they are actively participating. In other words, you learn by doing, not by watching. Therefore, MATH 2400 does not meet in large sections, but instead meets in small sections, which allows individual and group work in which you will be actively engaged with solving problems, making discoveries and understanding connections. This course and the book we are using are designed for a classroom which does not follow a traditional lecture format. Do not be surprised if your instructor often spends only half a class period lecturing or solving problems: the rest of the time, you should expect to be working at your desk or online, either individually or in groups, presenting your work.

In this vein, you will be expected to read a section in the book before it is discussed in class. Lectures are intended to highlight aspects of the text, not to replace it. In this course you will learn a number of useful formulas, though their mastery is not the primary purpose of calculus any more than correct spelling is the primary purpose of literature. Our goal is to have you learn how to understand calculus conceptually so you can build your own approaches to solving practical problems.

We will use a variety of recitation projects and in-class activities where you will collaborate in small groups to discover, extend, and apply calculus concepts.

Course Content:
This course is a continuation of MATH 2300. Topics include vectors, three-dimensional analytic geometry, partial differentiation and multiple integrals, and vector analysis.

Calculators and Other Technology:
You are required to have an electronic device that can access the internet, so a smart phone, laptop, or tablet with a webcam and microphone for in-class activities and online assessments. You are required to bring it to class. The device you use should be capable of graphing functions so you will need a graphing application, including the free app Desmos.

Absolutely no such devices will be allowed on exams. Nor will they be needed on exams.

Mathematics Academic Resource Center:
The Mathematics Academic Resource Center (MARC) is a free service provided by the Department of Mathematics that offers students additional support for their CU Mathematics courses.

The MARC is staffed by graduate students (G), undergraduates (U), and Learning Assistants (respective course number). Tutors are trained to help assist with specific questions. They are not able to work through homework assignments. The MARC is extremely busy before assignments are due, so make a habit of visiting the MARC well before assignments are due, have some coffee and tea (freshly brewed by MARC staff!), and start a conversation with our wonderful tutors.

Assignments:

The only effective way to learn Calculus is to do lots and lots of problems. Besides working on problems in class every day, you will have assignments and assessments in this course to enhance your skills and understanding.

Online homework:
WebAssign is an online system for doing homework. When you log on, you are given problems that you solve on paper and then enter the answers. These problems are generally straightforward or computational, and you can repeat them multiple times until you get the correct answer. The philosophy behind this is that instantaneous feedback is more effective than waiting days for a grade, and that doing a problem over if it's wrong is better than simply seeing the right answer. Because problems are graded by a computer, there are occasional technical issues, but we believe the trade-off is worthwhile. WebAssign can be accessed through the link on the main course webpage.

If you added the course before 10:00am on Friday, January 12, then you are already enrolled in our WebAssign course. If you added the course after this time, or if you have switched sections, then contact Jeff Taylor at `math-help@colorado.edu` so he can enroll you in WebAssign or switch your WebAssign access to the correct section. Include your first and last name, your CU email address, your IdentiKey username, and the course and section number you are enrolled in. You can find your WebAssign Assignments by clicking on the following link:
https://www.webassign.net/colorado/login.html.

The first assignment is due early in the first week of class, so do not wait! There is a **two-week trial period** in the beginning of the semester during which all enrolled students may use WebAssign without an access code.

There will be a WebAssign assignment for each topic we cover, assigned when we begin that material. Please check the due dates regularly, as you are responsible for getting the assignments done on time. No late WebAssign will be accepted and no extensions will be granted. However, we will allow you to miss 10% of the WebAssign problems for the semester with no penalty, so you don't need to panic if you miss a problem here and there.

You may email your instructor to ask about a WebAssign problem, but when you do, make sure to include "MATH 2400" in the subject line, give a clear statement of the problem you are trying to solve, say what you have already tried and why you think it should have worked. Ask your instructor for their particular policy regarding emailing questions.

Thursday Projects:
The recitation is every Thursday and is supervised by a graduate Teaching Assistant (TA) and an undergraduate Learning Assistant (LA). In recitation you will work on projects with your classmates. Expect to be assigned to groups (in person or in Zoom breakout rooms, depending on your class section). These groups will be changed frequently. The TA and LA will be present during recitations to facilitate your work on the projects, but the goal is for you (and your group-mates) to work through, and complete these projects on your own as much as possible. Your LA and TA will be making sure that you participate in your group's explorations and discoveries. Your grade is partially based on participation, so *participate*. Missed projects cannot be made up: if you miss a Thursday recitation, you will receive a zero for that project. However, your lowest three recitation grades will be dropped.

Written Homework:
You will be assigned several conceptual problems each week. These problems are a variety of problems from the textbook, along with supplemental problems. You are expected to write up complete, legible, and logical solutions to these problems, which will be graded by your Teaching Assistant. Your work should be scanned as a single PDF file and submitted via Canvas by **the start of your class** on the due date (Thursdays). **Late homework will not be accepted**, but your lowest two homework scores will be dropped.

Your solutions should be written using complete sentences to explain your steps. You may work together on homework to understand the problems and even to solve them (in fact, we recommend it). However, when you write up your solutions, this should be done independently, and in your own words. Thus, it is your own language and your own work. If you are wondering if you crossed the line, ask yourself, "Could I start over and redo this on my own, and would it basically look like this?" If not, then you are submitting someone else's work (plagiarism). Copying homework solutions from the internet, such as from Chegg or other similar websites, also constitutes plagiarism. Posting questions to Chegg is also an Honor Code violation.

Homework Honor Code Policy: If you are found to be in violation of the Honor Code on homework, the first infraction will result in a grade of zero on that homework. The second infraction will result in a full letter grade deduction on your semester grade (e.g., from a B+ to a C+). The third infraction will result in an F for the course. All infractions will be reported to the Honor Code Board.

Assessments:

Weekly-work grades: Each week you will receive a weekly-work grade of 0 to 10 points based on your performance in your MTWF class. Your instructor will give you details about how this score is determined for your section. This grade may be based on your performance on occasional quizzes (possibly at least one quiz every week), on take-home assignments evaluating written solutions to problems, and possibly on your in-class participation and your attendance (which may be taken everyday or only randomly). Your lowest two weekly-work grades will be dropped.

Exams:
There will be three 1.5 hour midterm exams given outside for class and a 2.5-hour comprehensive final exam given during the final exam period. For in-person sections, the exams will be proctored in person. Absolute no computing/graphing technology will be allowed on exams, nor will they be needed. **Use of any outside resources at any time during the exams will be considered cheating**. Exams cannot be made up or rescheduled. Please verify that you have no time conflicts with these exams before enrolling in this class.

- Midterm 1: Monday, September 23 from 5:45-7:15pm in rooms TBD
- Midterm 2: Monday, October 21 from 5:45-7:15pm in rooms TBD
- Midterm 3: Monday, November 18 from 5:45-7:15pm in rooms TBD
- Final Exam: Saturday, December 14 from 7:30am - 10:00am in rooms TBD, comprehensive

Exam Honor Code Policy: If you are found to be in violation of the Honor Code on an exam, your first infraction will result in a full letter grade deduction on your semester grade (e.g., from a B+ to a C+) or an F for the course (depending on the severity of the infraction). Your second infraction will result in an F for the course. All infractions will be reported to the Honor Code Board.

Grades: The grade distribution will be calculated based on the following weightings:

- Midterms (45%)
- Final Exam (20%)
- Weekly Work (10%)
- WebAssign (10%)
- Written homework (10%)
- Recitation projects (5%)

Note 1: The allowed number of drops in these categories can be used for low grades or missed assignments. However, the intended purpose of these drops is to alleviate the stress on your grade due to unpredictable non-academic circumstances (such as illness, family emergencies, or technical issues). Thus, do your best work so that you can reserve your drops for unpredictable non-academic circumstances.

Note 2: The weight of the midterms will be as follows: Your Lowest Exam score will be worth 12% of your overall course grade, your Highest Exam score will be worth 18% of your overall course grade, and your other exam score will be worth 15% of your overall course grade.

Note 3: If you miss exactly one midterm, your missed midterm score will be replaced by your final exam score and will weigh 12%. This replacement accommodation can only be applied to exactly one midterm. If you miss the final exam for any reason, you must petition for an incomplete. There is no guarantee that a petition for an incomplete will be approved.

Note 4: If the Final Exam score is greater than the Lowest Exam score, the Final Exam score will replace the Lowest Exam score when calculating the final course grade.

Note 5: In the highly unlikely event that the university cancels the final exam, the weighting will be 65% for the three midterms combined, and the weighting for the other coursework will remain 35% as stated above. In the unlikely event that a midterm is cancelled, the weighting will be 45% for the two remaining midterms combined.

University Policies and Standards

Classroom Behavior
Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, marital status, political affiliation, or political philosophy.

For more information, see the policies on classroom behavior policy, the Student Code of Conduct and the Office of Institutional Equity and Compliance.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation
If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or `dsinfo@colorado.edu` for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website. When able please contact your instructor to inform them of your absence.

Preferred Student Names and Pronouns
CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code
All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. Understanding the course's syllabus is a vital part in adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: `StudentConduct@colorado.edu`. Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

Sexual Misconduct, Discrimination, Harassment and/or Retaliation
CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits protected-class discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email `cureport@colorado.edu`. Information about university policies, reporting options, and support resources including confidential services can be found on the OIEC website.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive an outreach from OIEC about their options for addressing a concern and the support resources available. To learn more about reporting and support resources for a variety of issues, visit Don't Ignore It.

Religious Holidays
Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please communicate the need for a religious accommodation in a timely manner. In this class, reach out your instructor as soon as possible, preferably **at least two weeks prior** to the conflict, to discuss options so that we can provide reasonable accommodations.

See the campus policy regarding religious observances for full details.

Mental Health and Wellness
The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.