MATH 132: CALCULUS II - SPRING 2026

Instructor:	Ariel Weiss
Email:	ariel.weiss@trincoll.edu
Office:	MECC 277
Class Meetings:	MWF 8:30am–9:45am, LSC 136
Office hours:	TBD

Course information

Course description. Suppose your car's speedometer records your speed at every instant during a trip. By adding up how far you travel over many short time intervals, you can approximate the total distance of the journey. As the intervals become shorter and shorter, these approximations improve and, in the limit, become exact.

This idea of approximating a complicated quantity by simpler pieces and refining the approximation using limits is the central theme of Calculus II. The course focuses on *integration*, a technique that allows us to recover total quantities from rates of change, and to compute areas, volumes, and accumulated effects in geometric and physical problems.

We'll also apply this same perspective to sequences and series. By adding together infinitely many terms, we can approximate complicated functions by simpler ones, such as polynomials. These ideas lead to tools like Taylor series, which play a central role in both theory and applications.

Course textbook. *Calculus* (1^{st} edition) by Laura Taalman and Peter Kohn.

We will use the online platform **Achieve** for concept check assignments.

Note: The textbook from the bookstore comes bundled with Achieve access for all levels of calculus. If you buy the book elsewhere, it probably **does not** come with Achieve access, which will need to purchased individually from the publisher's website (see Moodle for details).

Course content. In this course, we will undertake a treatment of integral calculus (in Ch 4-6) as well as sequences and series (in Ch 7-8). Throughout, we will focus on gaining a strong intuitive, geometric, and formal understanding of important definitions, theorems, methods, and applications:

- (Ch 4) Definite and Indefinite Integrals, The Fundamental Theorem of Calculus
- (Ch 5) Integration Techniques
- (Ch 6) Applications of the Integral
- (Ch 7) Sequences and Series
- (Ch 8) Power Series and Taylor Series

Moreover, you should be able to communicate mathematics effectively, using complete sentences which blend the English language with mathematical definitions, notation and accompanying figures.

Course assignments

There will be two kinds of homework assignments:

- Concept check assignments
- Problem sets

Concept check assignments. Most classes, I will assign an online concept check assignment using the Achieve platform. These assignments are designed to ensure that you have understood the course material, including key definitions and basic computations.

Each assignment consists of a list of questions, and you may attempt each question as many times as you like. **Your grade is based on completion only, not correctness.** To receive credit, you must make a reasonable attempt at *every* question. Incomplete submissions will receive no credit.

Struggling with these assignments is a strong indication that you have not yet understood the material, and you should come to office hours for help.

Late submissions will not be accepted, except in accordance with the late homwework policy.

Problem sets. Each week, I will assign a problem set. These assignments are the main focus of the course. Problem sets typically consist of 3-5 questions, and are designed to challenge you and help you to master the course material.

You will be graded both on **mathematical accuracy** and on the **quality of your written communication**. Your homework solutions should be written clearly, legibly, and using appropriate style. In particular, your solutions should be written in full sentences, using proper grammar, punctuation, and spelling. You should use a fresh, clean, standard size paper (or digital equivalent), in portrait orientation, and leave a margin on all sides.

Problem sets must be submitted electronically using Moodle. Late submissions will not be accepted, except in accordance with the late homwework policy.

Assessment

Exams. There will be three in-class midterm exams and a comprehensive final exam:

- First midterm: Wednesday, February 18
- Second midterm: Wednesday, March 25
- Third midterm: Wednesday, April 22
- Final exam: Thursday, May 7 12pm–2:30pm

Grading. Your grade will be based on the following distribution:

Attendance, participation, and concept check assignments	10%
Problem sets	20%
Midterm 1	15%
Midterm 2	15%
Midterm 3	15%
Final exam	25%

You will be assigned a letter grade based on the following scale:

A	A-	B+	B	B-	C+	C	C-	D	F
[93,100]	[90, 93)	[87, 90)	[83, 87)	[80, 83)	[77,80)	[73,77)	[70,73)	[65,70)	[0,65)

Please note that it is the policy of the mathematics department that the grade of A+ is not awarded in 100-level courses.

Course policies

Expectations. Expect to spend at least 9-12 hours per week outside of class working on homework assignments, reading the relevant section from the text, reviewing your notes and supplemental materials, working through additional problems, and seeking help in office hours or at the Math Tutoring Center.

You are expected to actively engage in class by asking questions, taking notes, working on in-class exercises, and responding to questions posed by the instructor and your fellow classmates.

Office hours. You are encouraged and expected to come to office hours whenever you have questions about the course material. This includes material covered in lecture, homework, quiz and exam problems, or related problems/examples in the text. If you are unable to make my office hours at any time, please email to set up an appointment that works for you.

Attendance and participation. Unless otherwise announced, all class meetings will occur in person, and you are expected to attend and participate in each class. *Regular attendance is vital to success in this course,* and repeated absences will impact your ability to keep up with the course material.

To be considered present for the purposes of attendance, you must attend the full class meeting and participate in class activities. This includes being attentive and engaged during lecture and group work.

You will be graded on attendance as follows:

- $0-3$ unexcused absences: 100% attendance credit
- $4-7$ unexcused absences: 50% attendance credit
- 8 or more unexcused absences: 0% attendance credit.

Absences for illness, emergencies, religious observance, college-sponsored activities, or other significant circumstances will generally be considered excused. Please notify me of any absence or expected absence as soon as possible.

It is your responsibility to catch up with material missed due to an absence, whether excused or not. That said, I am happy to help. Please come to office hours or reach out if you need assistance catching up.

Collaboration. You are strongly encouraged to work with other members of the class to solve homework questions and to understand the course material. However, *your final write-up must be entirely your own.*

Low exam policy. If your grade on the final exam is better than the grade on your lowest midterm exam, your final exam grade will replace your lowest exam grade. In order to benefit from this policy, you must take all three midterm exams and have 100% attendance credit.

Late homework policy. You have three grace days for problem sets during the semester. A grace day lets you turn in a problem set up to 24 hours late for any reason, with no explanation needed. You may use these days one at a time or all at once, but once they are gone, no further late work will be accepted without prior approval.

Please note that these grace days may be applied to problem sets, not to concept check assignments.

Beyond these three grace days, late problem sets and concept checks will only be accepted if you have a valid excuse (e.g. illness, family emergency) that you communicate to me *before the deadline*, and I approve it. Excused late work of this kind does not count against your grace days.

Calculator policy. The use of a graphing calculator on exams is prohibited. You may use any calculator during class, but not any other electronic devices, except for note taking (this includes cell phones, laptops, and MP3 players).

Use of Generative AI. As machine learning tools like ChatGPT become more widespread, it's important to use them thoughtfully and responsibly. The course policy on these tools can be succinctly summarised as follows:

- You are encouraged to use generative AI tools in ways that enhance your learning.
- You should not use generative AI tools in ways that detract from your learning.
- Submitting AI-generated content as your own work is plagiarism and is strictly prohibited.

Examples of uses of AI that are beneficial include generating lists of practice problems, asking for explanations of a concept that you are struggling with, asking for clarification of unfamiliar terminology or reviewing definitions, using AI to help brainstorm questions to ask during office hours or study group sessions, and requesting a worked example of a problem type *after* attempting similar problems yourself.

Note that AI tools may provide information that is wildly incorrect, and that using AI is only beneficial if you are sufficiently sceptical of its output.

Examples of uses of AI that are not beneficial include asking for hints for current homework problems, requesting a worked example of a type of problem *before* you have attempted similar problems yourself, and using generative AI in place of collaborating with your peers.

Examples of uses of AI that reach level of plagiarism include any use of AI that results in you submitting AI-generated material, even if you substantially revise or reword it. This includes copying explanations, computations, or proofs, regardless of how much you edit them.

These categories are necessarily subjective, with many grey areas. If you are in any doubt whether a use case of AI is beneficial, not beneficial, or prohibited, please err on the side of caution and ask me first!

Academic Integrity. Academic honesty is highly valued at Trinity. In accordance with the Trinity College Student Integrity Contract, students are expected to abide by the highest standards of intellectual honesty in all academic exercises. Intellectual honesty assumes that students do their own work and that they credit properly those upon whose work and thought they draw. It is the responsibility of each student to make sure that they are fully aware of what constitutes intellectually honest work in every examination, quiz, paper, laboratory report, homework assignment, or other academic exercise submitted for evaluation in a course at Trinity College.

Academic Accommodations. Trinity College is committed to creating an inclusive and accessible learning environment consistent with the Americans with Disabilities Act. Students with disabilities who may need some accommodation in order to fully participate in this class are urged to contact the Student Accessibility Resource Center, as soon as possible, to explore what arrangements need to be made to assure access.

If you have approval for academic accommodations, please notify me by the end of week two of classes. For those students with accommodations approved after the start of the semester, a minimum of 10 days' notice is required. Please be sure to meet with me privately to discuss implementation.

Student Accessibility Resources can be reached by emailing SARC@trincoll.edu.

Disclaimer. This course syllabus is a general plan for the course, however, deviations may be necessary. If I need to change a course policy, I will make an announcement to the class and give sufficient notice.

Tentative weekly schedule

Week	Monday date	Textbook sections
1	Jan 19	**MLK Day - no classes on Monday**
		4.1 - Addition and Accumulation
2	Jan 26	4.2 - Riemann Sums
		4.3 - Definite integrals
3	Feb 2	4.4 - Indefinite integrals
		4.5 - Fundamental Theorem of Calculus
4	Feb 9	4.6 - Areas and Average Values
		4.7 - Functions defined by Integrals
5	Feb 16	**Exam 1 - Chapter 4**
		Trinity Days - no class Friday
6	Feb 23	5.1 - Integration by Substitution
		5.2 - Integration by Parts
		5.3 - Integration by Partial Fractions
7	Mar 2	5.4 - Trigonometric Integrals
		5.5 - Integration by Trigonometric Substitution
8	Mar 9	5.6 - Improper Integrals
		Topics from section 6
	Mar 16	**Spring break - no classes Monday-Friday**
9	Mar 23	**Exam 2 - Chapter 5**
		7.1 - Sequences
10	Mar 30	7.2 - Limits of Sequences
		7.3 - Series, Divergence Test
11	Apr 6	7.4 - Integral Test
		7.5 - Comparison Test
		7.6 - Ratio Test, Root Test
12	Apr 13	7.7 - Alternating Series
		8.1 - Power Series
		8.2 - Taylor Series
13	Apr 20	**Exam 3 - Chapter 7, 8.1**
		8.3 - Convergence of Power Series
13+	Apr 27	8.4 - Differentiating and Integrating Power Series
		Last day of classes on Wednesday
Thursday May 7		**Final Exam at 12pm**