Calculus I
Math 170
Fall 2025; MTWTF 10:00-10:50 am

Instructor: Jennifer Nordstrom   *Office:* Taylor 205
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Drop in hours: MWF: 9:00-10:00; MW: 1:00-2:00; TR: 3:00-4:00. I am also often available outside of these hours. Please feel free to drop by, or talk to me about an alternate meeting time.

Text: *Active Calculus, 2nd Ed*, M. Boelkins, et. al.
This is an open source text available as a free download at https://activecalculus.org/acs/
We will also be accessing the text through Runestone Academy, https://landing.runestone.academy/. You will need to access Runestone using the specific login information provided in class.

You may find the print version of the workbook helpful in class.

Tentative Schedule:

Week 1	Intro	Week 5	2.1	Week 9	3.3	Week 13	5.3
	Review		2.1		3.4		5.3
	Review		2.2		3.4		5.3
	1.1		2.3		3.5		6.1
	Quiz 1		Quiz 3		Quiz 5		Quiz 7
Week 2	No Class	Week 6	2.3	Week 10	3.6	Week 14	Break
	1.2		2.4		3.6		Break
	1.2		2.4		3.6		Break
	1.3		Break		4.1		Break
	1.3		Break		4.1		Break
Week 3	1.4	Week 7	2.5	Week 11	4.2	Week 15	6.2
	1.4		2.5		4.2		6.2
	1.5		2.6		4.3		3.2
	1.5		2.6		4.3		3.2
	Quiz 2		Quiz 4		Quiz 6		Quiz 8
Week 4	1.6	Week 8	2.7	Week 12	4.4	Friday	
	1.7		2.7		4.4	Dec 12	Final
	1.7		3.1		5.1		Time
	1.8		3.1		5.1		10:30 am
	1.8		3.3		5.2		

Course Objectives:

1. to introduce students to the fundamentals of differential and integral calculus and its applications in the physical and social sciences;

2. to solidify the student's abilities in the use of algebra, trigonometry, and calculus;

3. to develop in the student an appreciation for the foundations of the real number system;

4. to improve the student's problem solving abilities;

5. to increase the student's mathematical maturity and confidence in working through mathematical challenges.

Topics to be Covered: Differential and integral calculus of real functions of one variable. Differentiation techniques, the chain rule, the mean-value theorem, limits and continuity, curve sketching, integration by substitution. Applications of the derivative and integral to physics, economics, social sciences, and geometry.

The Importance of Community: Many aspects of this course are structured to build community. Although learning mathematics is often seen as an individual task, learning is more effective when you engage with others during the process. As a class we will determine the particular attributes we expect of each other in order to build our community. In addition, learning to work well in a community in which members bring different skills will better prepare you for life and work after college. Some ways you can help build a strong supportive community that improves learning are

- Come to class ready to participate.

- Help your group in a variety of ways: volunteer to write on the board, keep and organize notes for your group, ask questions, make suggestions, be positive and encouraging of others.

- Come to office hours for help rather than relying on AI or other tools when you are unsure of the concepts. Your professor is part of the community, too. Building connections with faculty will help you not just learn Calculus, but also help connect you with other resources and opportunities.

- Form study groups to work on homework together or review for quizzes. If you use AI to help you study, it is still better to do this in a group so you catch errors.

- Don't be afraid to make mistakes. We all learn from each others' mistakes and misunderstandings. You are not expected to come to this class as a fully-formed mathematician. In fact, you aren't expected to leave this class as a fully-formed mathematician either. But if no one knows what mistakes you are making, no one can help you learn.

Preview Activities: At the start of each section, there is a "Preview Activity." You are required to complete these BEFORE we start the section. To get credit, you need to complete these in Runestone. They are not graded for accuracy, but just for completion. Along with the Preview Activity, there are PROTEUS Questions. These questions are part of an NSF grant project. The grant and the necessary consent forms will be discussed in class. You are not required to be part of the grant, however, the Preview Activities and associated PROTEUS questions are still required as part of your grade. Given that the purpose of these questions is to be prepared for class, late Preview assignments will receive half credit.

Community and Participation: You will be working in groups of 3-4 students on in-class activities. Your participation and team-work with your group will count toward your community grade. Each section will have several activities that you will work on with your team. If you are unable to be in class, it is your responsibility to check with your group about what activities you missed.

At the end of each non-quiz week there will be a short community activity. These will generally be graded for completeness. There will also be a final reflective assignment for you to summarize your overall contributions to our community.

Given that over-reliance on AI tools to do mathematics for you is generally a replacement for doing mathematics with other people and can impact your ability to learn, evidence of such use will affect your community grade. See the AI statement for the specifics of appropriate uses for this course.

Homework: Homework will be due two to three times per week. It will be due at **11:00 pm** on the due date. All homework assignments are on Runestone.

I expect you to work on this course outside of class *daily*! It is highly recommended that you work on the homework throughout the week so you have plenty of opportunity to get help. You can request an extension of any homework assignment. All extensions will be for 48 hours from the original due date and time.

Daily Questions: At the start of class almost every day there will be a Daily Question. These will be questions on previous material. The purpose of these is primarily diagnostic, not evaluative. They will be graded on a pass/ no pass (P/NP) basis. You may receive a NP on eight Daily Questions with no penalty, after that, you will lose 3% of the Daily Question grade for each NP. There are absolutely no make-up questions. A missed Daily Question counts as a NP. It is important to arrive to class on time, as these will only take a few minutes.

Quizzes: Every two weeks there is a quiz (marked on the schedule). You may take a quiz early if you need to miss class. You may retake of any quiz. To do a retake, you must meet with me to talk about the original quiz. Then we can reschedule the retake. The final deadline to retake a quiz is 12:30 pm on Friday, Dec 12 (this is the end of our final exam time). However, it is strongly encouraged that you retake a quiz BEFORE the next quiz. Each quiz may be retaken only once.

Grading:

Preview Activities and PROTEUS Questions:	10%
Community and Participation:	10%
Homework:	30%
Daily Questions:	10%
Quizzes:	40%

Letter grades correspond to the following percentages:

A-, A:	90-100%
B-, B, B+:	80-89%
C-, C, C+:	65-79%
D:	55-64%

However, I reserve the right to curve the scale.

Advising Information: The prerequisite for this course is Math 150, Precalculus, which is equivalent to a high school course which includes Trigonometry. This course is designed for anyone who would like to learn calculus. It is required of math, physics, chemistry, and computer science majors. It is also recommended for majors in Economics who intend to pursue graduate study and majors in Biology who intend to pursue graduate or medical school.

Cell Phone Policy: Cell phones must be off and put away during class. Laptop computers and tablets are encouraged, as we will be engaging with materials that are available electronically. However, please use them in ways that are focused on the course and the activities of the class.

Academic Integrity Policy: Linfield University operates under the assumption that all students are honest and ethical in the way they conduct their personal and scholastic lives. Academic work is evaluated on the assumption that the work presented is the students own, unless designated otherwise. Anything less is unacceptable and is considered a violation of academic integrity. Furthermore, a breach of academic integrity will have concrete consequences that may include failing a particular course or even dismissal from the university. Violations of academic integrity include but are not limited to the following:

Cheating: Using or attempting to use unauthorized sources, materials, information, or study aids in any submitted academic work; changing answers after graded work has been returned; making unauthorized changes to an exam, quiz, or assignment.

Plagiarism: Submission of academic work that includes material copied or paraphrased from published or unpublished sources without proper documentation. This includes self-plagiarism, the submission of work created by the student for another class unless they receive consent from both instructors.

Fabrication: Deliberate falsification or invention of any information, data, or citation in academic work.

Facilitating Academic Dishonesty: Knowingly helping or attempting to help another to violate the universitys policy on academic integrity.

Any form of academic dishonesty will result in a 0 on that assignment/ quiz/ exam. Additionally, academic dishonesty may result in a failing grade in the course. See the Linfield Academic Integrity Policy (https://catalog.linfield.edu/academic-policies-procedures/undergraduate/academic-integrity/) in the Linfield Catalog for information on the procedure to be used in dealing with academic dishonesty.

Use of AI in Student-Generated Work: Students in this course are expected to avoid the use AI tools, such as Chat GPT and PhotoMath, to generate presentation, quiz, or homework solutions. Any tools used may only be in a manner that contributes to understanding math, rather than avoiding the work necessary to deepen your understanding. Use of such tools, like any other academic work that is not entirely the students own, must be cited. Work for a grade that is not primarily in the students own words and properly cited, will be considered plagiarized. Note, many of the math tools that exist use techniques that are not part of this course. Clear violations of the policy will receive a 0 on the entire assignment/ quiz/ presentation, in addition to a lower Community grade.

Some AI uses that are appropriate: generating questions to help you study for quizzes, helping summarize key concepts with additional examples, helping create a study plan for balancing your workload.

Disability Statement: Students with disabilities are protected by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability and feel you may require academic accommodations please contact Learning Support Services (LSS), as early as possible to request accommodation for your disability. The timeliness of your request will allow LSS to promptly arrange the details of your support. LSS is located in Melrose Hall 020 (503-883-2562), or LSS@linfield.edu. We also encourage students to communicate with faculty about their accommodations.

Electronic Recording/ Content Sharing: I may opt to record the classroom activities for instructional purposes and post them to the cloud. The electronic recording of classroom lectures, discussions, simulations, and other course-related activity is governed by Linfields Classroom Recording Policy (Faculty Handbook, VII.26 and Student Policy Guide). Students do not have permission to record any Zoom meetings. Students do not have permission to distribute or share any recorded content from Zoom meetings.

Sexual Misconduct and Relationship Violence & Title IX: Linfield University faculty are committed to supporting students and fostering a campus environment free of sexual misconduct and relationship violence. If a student chooses to disclose to a faculty or staff member an experience related to sexual misconduct, sexual assault, domestic violence, dating violence, or stalking, all faculty and staff are obligated to report this disclosure to the Linfield Title IX Coordinator by emailing titleix@linfield.edu. Upon receipt of the report, the Title IX Coordinator will contact you to inform you of your rights and options and connect you with support services. If you would rather share information about these experiences with an employee who does not have these reporting responsibilities and can keep the information confidential, please visit confidential resources: https://inside.linfield.edu/sexual-misconduct/reporting-options/confidential.html.

For more information about your rights and reporting options at Linfield, including confidential reporting options, please visit inside.linfield.edu/sexual-misconduct/. Support services are offered to all Linfield students regardless of whether or not they report. Still have questions? Email titleix@linfield.edu.

Commitment to Diversity and Inclusion: Linfield University honors human rights and academic freedom, celebrates diverse cultures, fosters a climate of mutual respect, and promotes an inclusive environment that affirms the value of all persons. Dimensions of diversity can include sex, race, age, national origin, immigration status, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith and non-faith perspectives, socio-economic class, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. In a multi-perspective intellectual space, challenges to our beliefs and ideas are part of the learning process and can provide opportunities for growth. Reasoning, thoughtfulness, and open dialogues that honor the dignity of everyone is expected.