DE ANZA COLLEGE – SPRING 2026

MATH 12-35Z (CRN 45432) - INTRODUCTORY CALCULUS FOR BUSINESS AND SOCIAL SCIENCE

Instructor: Lucian Sega, PhD

Class: Tuesdays and Thursdays, 6:30 - 8:45 pm PST online (zoom)

Email: segalucian@fhda.edu

Office Hours: Tuesdays 5:00 pm - 6:00 pm PST (zoom) or by appointment

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Prerequisites

Math 31, 31 H, 31B, 41, or 41H

Course Materials

- Textbook: Bittinger, Surgent, and Ellenbogen, “Calculus and Its Applications”, 3e, Pearson
- Instructor notes

Calculator

A graphing calculator (e.g TI-83/TI-84, TI-nspire CX CAS) is recommended and useful, but not required.

Tips for Success

- Participate actively in class discussions and office hours
- Do not fall behind on assignments, work problems/practice every day
- Review old material constantly (brush up previous calculus courses)
- Make use of tutoring and online resources

Course Objectives

- Discuss functions and use them to build mathematical models in the sciences including business and economics
- Define and discuss limits and study their properties and determine continuity/discontinuities of a function
- Apply the definition of derivatives and use both the definition and rules of differentiation to find rates of change and equations of tangent lines
- Apply the chain rule to differentiate composite functions, inverse functions, and functions defined implicitly
- Use Algebra and first and second derivatives to assist in sketching graphs of functions and use derivatives and graphs to analyze functions that model economic and business applications
- Apply the first and second derivative tests to solve optimization problems including application in business and economics
- Examine integration of functions as Riemann sums of products, such as area, and use limits of Riemann sums, antiderivatives, tables, software, and numerical techniques to evaluate/approximate definite integrals
- Use integration techniques to solve application problems including first order separable differential equations
- Apply rules of partial differentiation to find partial derivatives of multivariable functions and solve optimization problems including applications in business and economics
- Classify improper integrals and examine their properties and use to solve application problems

Student Learning Outcomes

- Use correct notation and mathematical precision in the evaluation and interpretation of derivatives and integrals
- Evaluate, solve, interpret, and communicate business and social science applications using appropriate differentiation and integration methodologies

Homework and Quizzes

Homework problems will be assigned regularly and posted in canvas each week. The homework for an entire week is due by 11:59 pm PST on Monday of the following week. The homework problems will provide a good preparation for the midterms and final exam.

Quizzes will be given approximately once a week and will be similar to the homework and class examples. The quizzes are take-home, will be posted in canvas on Friday each week, and are due back by 11:59 pm PST on the following Monday. Please submit your solution files through Canvas for both homework and quizzes. **Late homework and quizzes will be given no credit and awarded a score of 0.**

Midterm Exams

There will be two one-hour in-class midterm exams:

- **Thursday, April 30, 2026**
- **Thursday, May 28, 2026**

Make-up midterms will only be given in **extraordinary** circumstances.

Final Exam: Thursday, June 25, 2026, 6:15 - 8:15 pm (Zoom)

A mandatory comprehensive 2-hour long final exam will be given at the end of the quarter. The final exam must be taken on Thursday, June 25, at the scheduled time. There is no make-up final exam.

Grading Policy

- Homework……15%
- Quizzes……15%
- Each midterm exam……20%
- Final exam……30%

A+: 98-100	**B+**: 87-88	**C+**: 74-77	**F**:0-54
A: 92-97	**B**: 80-86	**C**: 65-73	
A-: 89-91	**B-**: 78-79	**D**: 55-64	

Attendance Policy

Students are expected to be present in class and check posted assignments in canvas regularly (I will not send reminders). **Students who are absent from class for more than 1.5 weeks may be dropped by the instructor.** If a student decides not to continue with the course, it is the student's responsibility to officially drop the course. Failure to do so may result in a grade of F for the course.

Last day to drop a course without a W: April 19, 2026

Last day to drop a course with a W: May 29, 2026

Academic Honesty Policy

Students are responsible for keeping themselves informed of the De Anza College Policy on Academic Integrity. Cheating will not be tolerated and may result in receiving a zero on the exam or an F for the course and being reported to the Dean of Students Office for possible disciplinary action.

https://www.deanza.edu/policies/academic-integrity.html

Accommodations for Students with Disabilities

Students with disabilities who believe that they may need accommodations in this course are encouraged to contact Disability Support Services (408-864-8753) or Educational Diagnostic Center (408-864-8839) as soon as possible to ensure that such accommodations are arranged in a timely fashion.

Student Learning Outcome(s):

• Use correct notation and mathematical precision in the evaluation and interpretation of derivatives and integrals.

• Evaluate, solve, interpret and communicate business and social science applications using appropriate differentiation and integration methodologies.

Office Hours:

T	10:00 AM - 11:00 AM	Zoom
T	11:00 AM - 12:00 PM	Zoom
T	12:00 PM - 1:00 PM	Zoom
T	5:00 PM - 6:00 PM	Zoom