De Anza College – Winter 2026

MATH 1D-18Z,18G (CRN 39510, 39640) Calculus IV

Instructor: Lucian Sega, PhD

Class: Tuesdays and Thursdays, 4:30-6:45 pm PST, online (zoom)

Email: segalucian@fhda.edu

Office Hours: Tuesdays 12:00-1:00 pm PST (zoom) or by appointment

Prerequisites

Math 1C or Math 1CH with a grade of C or better, or equivalent.

Course Materials

- Textbook: OpenStax Resources Volume 3 (right click and open link in new window): https://openstax.org/details/books/calculus-volume-3
- Instructor notes

Calculator

A graphing calculator (e.g TI-83/TI-84, TI-nspire CX CAS) is recommended.

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

- Examine functions of several variables, define and compute limits of functions at points and define and determine continuity
- Define and compute partial derivatives, directional derivatives, and differentials of multivariable functions and examine conditions of differentiability; find the equation of the tangent plane and normal line to a surface at a point
- Find local extreme values of functions of several variables, test for saddle points, examine the conditions for existence of local and absolute extreme values, solve constraint problems using Lagrange multipliers, and solve related application problems
- Use rectangular, cylindrical, and spherical coordinate systems to define space curves and surfaces in cartesian, parametric and vector forms
- Integrate functions of several variables
- Examine vector fields and define and evaluate line integrals using the Fundamental Theorem of Line Integrals and Green's Theorem; compute arc length
- Define and compute the curl and divergence of vector fields and apply Green's Theorem, Stokes's Theorem, and the Divergence Theorem to evaluate line integrals, surface integrals, and flux integrals

Student Learning Outcomes

- Apply analytic, graphical, and numerical methods to study multivariable and vector-valued functions and their derivatives, using correct notation and mathematical precision.
- Use double, triple, and line integrals in applications, including Green's Theorem, Stokes's Theorem, and Divergence Theorem.
- Synthesize the key concepts of differential, integral, and multivariate calculus.

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, January 29, 2026
- Thursday, February 26, 2026

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

Final Exam: Thursday, March 26, 2026, 4:00-6:00 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, March 26, 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: January 18, 2026

Last day to drop a course with a W: February 27, 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):

• Apply analytic, graphical and numerical methods to study multivariable and vector-valued functions and their derivatives, using correct notation and mathematical precision.

• Use double, triple and line integrals in applications, including Green's Theorem, Stokes' Theorem and Divergence Theorem.

• Synthesize the key concepts of differential, integral and multivariate calculus.

Office Hours:

T	10:00 AM - 11:00 AM	Zoom,By Appointment
T	11:00 AM - 12:00 PM	Zoom,By Appointment
T	12:00 PM - 1:00 PM	Zoom,By Appointment
T	12:00 PM - 1:00 PM	Zoom,By Appointment