Lecture schedule based on the OpenStax textbook *Calculus–Volumes 3*:
`https://openstax.org/details/books/calculus-volume-3`

Section	Lectures	Topic
2.1	1	Vectors in the Plane
2.2	1	Vectors in Three Dimensions
2.3	2	The Dot Product
2.4	2	The Cross Product[1]
2.5	1	Equations of Lines and Planes in Space
3.1	1	Vector-Valued Functions and Space Curves
3.2	1	Calculus of Vector-Valued Functions
3.4	1	Motion in Space
4.1	1	Functions of Several Variables
4.3	2	Partial Derivatives
4.4	1.5	Tangent Planes and Linear Approximations
4.5	1.5	The Chain Rule
4.6	2	Directional Derivatives and the Gradient
4.7	2	Maxima/Minima Problems
4.8	1	Lagrange Multipliers
5.1	2	Double Integrals over Rectangular Regions
5.2	2	Double Integrals over General Regions

Notes

- The standard number of days a class meets in a quarter is 28 (for Winter) or 29 (for Fall and Spring). Allowing for two midterm exams, this leaves 26 or 27 meeting times. The suggested lecture schedule given above includes 25 lecture periods.
- The course description for Math 10C (as given in the university course catalogue) does not include multivariable integration. Traditionally, integration in several variables has been omitted from Math 10C or kept to a minimum. These topics can be omitted for time, if necessary.

[1] The subsection "The Triple Scalar Product" may be omitted.

Math 10ABC Description

Mathematics 10A and 10B are single-variable differential and integral calculus courses intended for majors in life and social sciences. The most common majors are biology and economics. The sequence continues with multivariable calculus (10C) or elementary probability and statistics (11). The course meets three times a week in large sections conducted by the instructor. The students also meet in smaller (about 30-35 students) recitation sections once each week; these sections are conducted by teaching assistants. Throughout the year, the Teaching+Learning Commons provides drop-in tutoring for Math 10A, 10B, and 10C. Hours of availability and other information can be found here:

`https://aah.ucsd.edu/content-tutoring/index.html`

Math 10A in the Fall, Math 10B in the Winter, and Math 10C in the Spring are usually coordinated and follow a common calendar agreed upon by the instructors with common homework assignments, quizzes, midterms, and final examination.

The principal goal of Math 10ABC is for students to develop a solid understanding of the fundamental ideas of calculus. As a result, the emphasis is on developing a good understanding of why the ideas and procedures of calculus make sense. While a certain level of technical proficiency is essential for that understanding, more attention should be given to presenting rationales for underlying concepts and results and their applications than to proofs that may be too formal for the students or to intricate technical processes. Whenever possible, applications should be chosen from areas that are likely to be of interest to the students, with special emphases on biology and economics.

Please be aware that sometimes the text uses a level of formality that might be inappropriate for this class; this should be a caution to the faculty not to replicate that error (from our point of view), but rather to try to complement it with greater attention to informal motivating arguments when possible. Similarly, some of the problems in the text might be more intricate and technical than is suitable for the students in this course; consequently, some care should be taken in assigning homework to be sure that students develop needed technical competency along the way to acquiring solid understanding without being overwhelmed by inappropriate technical difficulties.