

Math 1D-44Z, Winter 2021 (01240)
 Calculus (fourth quarter); TTh 6:30-8:45 pm; online
 Text: Stewart, Calculus: Early Transcendentals; 8th
 Student Conference Hours: Via Zoom MT 4:00-5:00 pm

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 Stewart web materials and WebAssign

Syllabus: Partial derivatives, multiple integrals, vector calculus. Prerequisite: Math 1C (with a grade of C or better) or equivalent.

Equipment: Graphing calculator (numerical but not symbolic -- see the restriction document).

Week (Tuesday) Topics (with reference to chapters and sections in Stewart, 8th edition)

- 1 (1/5) Introduction; 12.6 (quadric surfaces); 14: 1-2 (functions of several variables, limits/continuity)
- 2 (1/12) Quiz #1; 14: 3-5 (partial derivatives, tangent planes, differentials, differentiability, chain rule)
- 3 (1/19) Quiz #2; 14: 6-8 (directional derivative/gradient, maximum/minimum, Lagrange Multipliers)
- 4 (1/26) *Test #1 (26 Jan)*15: 1-3 (double integrals over rectangles, general regions, in polar coordinates)
- 5 (2/2) Quiz #3; 15: 4-6 (applications, surface area, triple integrals)
- 6 (2/9) Quiz #4; 15: 7-8 (triple integrals in cylindrical/spherical coordinates)
- 7 (2/16) *Test #2 (16 February)*16: 1, 5 (vector fields, curl and divergence)
- 8 (2/23) Quiz #5; 15: 9 (change of variables, Jacobian); 16.6 (arc and surface elements)
- 9 (3/2) Quiz #6; 16: 2-3 (line integrals); 16: 6-7 (area, surface integrals)
- 10(3/9) Quiz #7; 16: 4, 8, and 9 (Green's, Stokes's, and Gauss's theorems); 16: 10 (review)
- 11(3/16) *Test #3 (16 or 18 March);* 16.10 (review)
- 12(3/23) **Final Examination, 25 March, 6:15 to 8:15 pm**

Course Requirements:

1. There will be ten **Homework Assignments** via WebAssign due midday on Mondays.
2. There will be seven **Quizzes**, based upon the homework, on Tuesdays at the start of class. No make-ups will be given unless arranged in advance. Students should work problems in addition to those suggested. [The lowest quiz score will be dropped to compute the course grade.]
3. There will be three **Tests** on Tuesdays at the start of class. Note the dates; no make-ups will be given unless arranged in advance. [One-half of the score on the final exam, if higher, replaces the lowest test score to compute the course grade.]
4. There will be a two-hour comprehensive **Final Examination** on Thursday, March 25, 6:15 to 8:15 pm. Any student missing the final exam will fail the course; no excuses are acceptable.

<u>Grading:</u>	Homework	(10 X possible 6 points each)	60
	Quizzes	(6 X possible 15 points each)	90
	Tests	(3 X possible 50 points each)	150
	Final Exam	(1 X possible 100 points)	<u>100</u>
			400 points

Course grades will reflect the following percentage range of total scores:

A = 90 ≤ % ≤ 100 [360 - 400] C = 60 ≤ % < 75 [240 - 300] F = below 50% (below 200)
 B = 75 ≤ % < 90 [300 - 360] D = 50 ≤ % < 60 [200 - 240]

Grades B+, C+, and D+ may be used as the distribution of point totals warrants; A-, B-, and C- will not be used.

Attendance: Regular attendance is expected. A student who misses any class during the first two weeks of the quarter may be dropped from the course. Inform the instructor, in advance, of any necessary absences; telephone and leave a message or email the instructor if an emergency arises. Note that it is the **student's responsibility** to formally "drop" or "withdraw" from the course.

Protect your academic record by observing these deadlines:

18 January to drop with no record 29 January for P/NP option 26 February to drop with a "W"

Resources and Policies

Resources:

The key to success in any mathematics course is practice through homework. WebAssign provides a minimum amount of such practice. While showing work is not required for these problems, students will benefit by keeping a notebook of these worked problems for study purposes. Give an honest effort on these problems; don't simply copy another student's answers. If you are working together on the homework, help each other understand the problems and obtain the correct results. These are not meant to be a comprehensive selection of problems; you should work plenty of problems for practice. The text contains answers for the odd numbered problems. In addition, the Students' Solutions Manual, provides worked solutions to the odd problems.

Please, also, utilize the Student Success Center for assistance and group work:

deanza.edu/studentsuccess.

Additional resources are available at the Online Learning Resource Hub for Students:

deanza.edu/online-ed/students/remoteteaching.html.

A comprehensive list of student services can be found on the Guide to Student Services page:

deanza.edu/services.

Policies:

Collaboration on homework is encouraged, but help each other -- don't simply copy other students' work. The class will also experiment with group quizzes. Tests and some quizzes will be completed individually and must represent each student's own work. Some, but not all, of these may be open-book, and students may not search for solutions on the internet or in other resources. These policies will be made clear for each assignment and will be reviewed and discussed further as the course progresses.

Student Learning Outcome(s):

*Graphically and analytically synthesize and apply 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.