

Course: Math 1D.03 Multi-Variable Calculus **Instructor:** Mr. Charles Klein
Days: M – Th Summer 2016 **Contact:** 408 864 8213
Time: 7:30 –9:45 AM Room E–36 No office hours during summer

email: kleincharles@fhda.edu **website:** deanza.edu/faculty/kleincharles/

Student Learning Outcomes (the math from this course you should be able to do at the end of the course)

- 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

Text: Calculus–Early Transcendentals, 7th Ed.–J. Stewart; a graphing calculator is required; (TI–83/84/86 or equivalent)

Overview: Functions of Several Variables, Partial Derivatives, Max/Min of Multivariable Functions; Double and Triple Integrals, and Applications; Vector Function and Vector Field Calculus

Pre-requisite: Math 1A , 1B , 1C (with a passing grade of C or better) or equivalent.

The use of cell/portable phones, beepers, or pagers in class is considered impolite and disruptive, if not rude. Please turn them off before entering class. If your phone/beeper goes off during a mini-test/exam, your paper will be taken, and you will not be allowed to continue working on it. Your score will be based on the work done up to that point.

S. O. P. 's: In addition to the following, you are also responsible for information contained in the "General Information" page of the instructor's **website:** deanza.edu/faculty/kleincharles/

Attendance: Since mathematics is cumulative in nature, attendance at all classes is expected. Students should be aware of appropriate drop dates (July 4, July 27 –See special notes on Dropping a Class in the Schedule of Classes or the General Information page of the instructor's website). It is the student's complete responsibility to drop this class as I will not drop anyone from the class.

Homework: Homework assignments represent the student's opportunity to learn what was taught, by practicing both mechanical skills and problem-solving techniques. The student is responsible for all problems associated with the sections of the text covered each class meeting.

Mini-Test: Mini-Tests will be given intermittently throughout the quarter. Short (a day) notice, if any, will be given, and a missed Mini-Test (20–40 pts.) cannot be made up. Mini-Tests will be worth a total of approximately 150 points.

Exams: Each exam will be announced about a few days in advance. Students are required to take exams when scheduled, including the final. There are no makeup's of any kind; the final exam will count twice; one lowest exam score will be dropped. For example, if one of the midterm exams is the lowest, then the final score will replace that midterm score. (i.e., exam scores of 50 , 60 , and 70 , and a final exam score of 65 will give you exam points of 60 , 65 , 65, 70 - which means you just gained 15 free points (average goes up). However, with exam scores of 50 , 60 , and 70 , and a final exam score of 40 will give you scores of 40 , 50 , 60 , 70 , and thus your overall average will be pulled down.

- If your lowest exam score is the result of cheating or cell phone mis-use, that score will not be dropped, but the next lowest will.
- If you need to leave the room during a mini-test or exam, your paper is turned in and you are done.
- At the end of the minitest/exam, you will have **ten seconds** to turn in your paper. If it is turned in late, a late penalty (see below) will be assessed. It is not fair for you to continue working while others are turning in their work.

All work on quizzes and exams must be neat, complete, and logically presented; where work is required, partial credit will be given provided the work justifies such credit: a correct answer by itself will not earn full credit (except on a multiple choice question).

Points will be assessed/deducted not only for the correctness of the mathematics, but also for the presentation of the math. Check the "General Information" page of the instructor's website for further information/details, etc. **THE PRESENTATION OF YOUR MATH IS AS IMPORTANT AS THE ACCURACY OF YOUR MATH.**

A penalty of a minimum of 10 % off, up to no credit, will be assessed for any mini-test, exam or other assigned work that is turned in late.

Cheating, which includes, but is not limited to: looking at another's paper, copying, passing notes or other information, etc., will not be tolerated. The first instance will result in a zero on a mini-test or exam, and the student referred to the Dean for academic discipline. It is possible that as a result of cheating, the student could receive a grade of F for the course.

A penalty of a minimum of 10 % off, up to no credit, will be assessed for any mini-test, exam or other assigned work that is turned in late. Extra Credit (problems –not required– offered "in addition to" rather than "in place of" an exam, etc.) is available at the instructor's discretion; these are generally due the next class. There is no makeup for any missed extra credit.

Homework Problems will be assigned accordingly, as we progress through the term. Expect problems to be given each day. Remember, you should be prepared to spend 2–4 hours per day (including weekends) for review, homework, and study. (see General Information on instructor's website)

Ch. 14	14.1	1, 2, 7, 11, 15, 18, 25, 27	Ch 15	15.4	1, 2, 4, 9, 11, 13, 14, 16, 19, 20, 29, 32
	14.2	2, 5, 7, 8, 13, 15, 2, 25, 29, 30, 32, 37, 39, 41		15.5	5, 6, 10, 13, 15, 19, 30
	14.3	3, 11 [no graph], 15, 16, 21, 24, 29, 33, 38, 41, 42, 45, 48, 53, 60, 66, 77 all parts		15.6	1, 2, 4, 5, 8, 13, 14, 18
	14.4	1, 4, 11, 12, 22, 27, 30, 33		15.7	1, 3, 4, 6, 10, 18, 28, 33
	14.5	1, 2, 7, 11, 13, 17, 21, 24, 28, 33, 46		15.8	1, 3, 6, 7, 10, 1, 15, 18, 23, 25, 29
	14.6	2, 4, 7, 11, 13, 16, 19, 25, 28, 29, 34, 41, 45, 54	Ch 16	16.1	1, 6, 21, 22, 23, 25, 33
	14.7	1, 5, 7, 13, 16, 29, 31, 35, 41, 43, 46		16.2	1, 4, 7, 11, 13, 19, 22, 29, 40
	14.8	3, 6, 8, 13, 15, 16		16.3	1, 3, 5, 7, 10, 12, 15, 19, 23
Ch 15	15.1	1, 6, 8, 11, 12, 13, 14		16.4	1, 2, 5, 11, 17, 19
	15.2	3, 6, 10, 13, 15, 18, [17, 19], 21, 24, 30, 35		16.5	1, 4, 7, 13, 14, 17, 23, 24, 30, 31
	15.3	1, 2, 6, 8, 17, 20, 26, 27, no graphs: 43, 47, 49, 50		16.6	1, 3, 4, 19, 24, 33, 34, 35, 39, 41
				16.7	1, 5, 6, 13, 20, 25, 31
				16.8	2, 3, 9, 13, 17
				16.9	1, 3, 7, 11

- It is strongly suggested you get the names and email/phone numbers of *several* students in the class so that you may contact others for any missed classwork, assignments or XC, should you be absent.
- It is highly recommended that you form study groups with others in the class. Take the initiative to form that group: the best way to learn something is to try to explain it to someone else.

Exam Schedule:

<u>Exam #</u>	<u>Covering</u>	<u>On or about</u>
1	Ch. 14 8	July 7
2	Ch. 15 9	July 20
3	Ch. 16 9	Aug. 2
Final	Comprehensive	Last day of class

Grades: Your grade will be based upon the percentage of total points earned, as compared to the total points possible, according to the following:

<u>From</u>	<u>Points</u>	<u>Percentage Earned</u>	<u>Grade</u>
Mini Tests	150	88 – above	A
Exams	300	78 – 87	B
Final	100	67 – 77	C
		55 – 66	D
<hr/> Total Points Possible	<hr/> 550	54 or below	F