

Course Math 1A.07 Differential Calculus **Instructor** Mr. Charles Klein
Day M - F Winter 2018 **Office Phone** 408 864 8213
Time 10:30-11:20 AM Room MLC-108 **Office Hours** S-76g Mon-Thurs 9:30-10:20 AM

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READ THROUGH THIS ENTIRE GREENSHEET, AND THE INFORMATION ON THE COURSE WEBPAGE, SO THAT YOU ARE FAMILIAR WITH THE CLASS AND ITS MANY DETAILS

Text: Calculus–Early Transcendentals with Hyperbolic Functions, 8th Ed.–Stewart/Larson; a graphing calculator is required; (TI-83/84/86 or equivalent) Author’s tutorial help is available at www.stewartcalculus.com

Overview: Introduction to limits, differentiation and integration of single variable functions; differentiation of multivariate functions; applications: tangents, extrema/optimization, others.

Pre-requisite: Math 41,42,43, or equivalents, (with a passing grade of C or better) and satisfactory score on Pre–Calculus Placement Exam. *Your skills in algebra, geometry, and trigonometry should be excellent.*

The use of cell/portable phone, beeper, or pager 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 this course syllabus, the instructor’s “**Home page**” and the “**General Information**” page of the instructor's website: www.deanza.edu/faculty/kleincharles/ is also considered part of the course syllabus, and hence you are also responsible for and bound by the information contained therein.

Attendance: Since mathematics is cumulative in nature, attendance at all classes is expected. Students should be aware of appropriate drop dates (Jan. 21 , Mar. 2 –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 expected to do –and is responsible for– all assigned problems associated with the section(s) of the text covered each class meeting.

Mini–Test: Mini–Tests will be given intermittently throughout the quarter. Short (a day or so) notice will be given, and a missed Mini–Test (approx. 40 pts.) cannot be made up. Mini–Tests will be worth a total of approximately 160 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 after the exam is given; 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 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. 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.

Extra Credit: There is typically an additional extra-credit problem/question on each exam and mini-test. "XC" problems are also offered "in addition to" rather than "in place of" regular class-work, and are provided at the instructor's discretion; these are generally due the next class. There is no makeup for any missed extra credit. Extra credit is not available to make up for poor quiz/test performance.

Some exams, including the final, in whole or in part, may be multiple choice. The day and time for the final is already set; consult the DAC schedule of classes. Do not ask to take the final early.

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.

Homework Problems: Expect problems to be given each day. Remember, you should be prepared to spend 2-3 (maybe even more) hours per day (including weekends) for review, homework, and study (see General Information).

The assigned problems (see below) basically cover the variety of skills you will need. It is suggested you do additional problems of each type to gain additional expertise. You should anticipate spending 2-3 hours per day (including weekends) doing homework problems.

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 assignments or XC, should you be absent, or to form study groups.

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.

**Take advantage of the video tutorials that are accessible via the instructor's website.
(see left-hand column on home page of website)**

NOTE: This first chapter is treated as review; you should be able to do most of the work already. As a means of getting underway, **try the diagnostic tests A - D (pgs. xxvi - xxx, or prior to "Preview of Calculus"; answers given after each test).**

<p>Ch. 1 1.1 What are "the four ways of representing a function", and how do you do them? 1, 2, 5-9, 11, 16, 18, 20, 23-26, 27-55 odd, 56, 57</p> <p>1.2 1, 2, 3, 4, 8, 13 (13 show work to derive the formula), 16</p> <p>1.3 1, 5, 9, 13, 17, 21, 29, 30, 31-47 odd, 51, 54, 55</p> <p>1.4 3, 5, 13, 16, 17, 18, 21, 24, 30</p> <p>1.5 1, 2, 3, 7, 9, 12, 17, 19, 20, 21, 22, 23, 30,</p>	<p>Ch. 2 2.1 1, 3, 5, 9</p> <p>2.2 1-4, 6, 9, 13, 14, 21, 25-27, 32, 34, 35</p> <p>2.3 1, 3, 4, 9, 10, 11-29 odd, 31, 35, 39, 42, 45, 48</p> <p>2.4 1, 2, 7, 13, 18, 19-31 odd, 36</p> <p>2.5 2-4, 7, 13, 15, 19, 21, 24, 31, 35, 37, 42, 47, 50</p> <p>2.6 4, 5, 9, 15-35 odd, 37, 39, 41, 44, 45, 49, 52, 65</p> <p>2.7 3-5, 8, 9, 11, 13, 14, 19, 22, 25-36 all, 43</p> <p>2.8 1-4, 8, 14-16, 19-27 odd, 35-38, 42, 43</p>	<p>Ch. 3 3.6 3-21 odd, 23, 25, 26, 30, 33, 37-40, 43, 46, 49</p> <p>3.7 1, 5, 6, 8, 9, 10, 14, 15, 18, 20, 23, 29</p> <p>3.8 1, 2, 4, 8, 9, 12-14, 19</p> <p>3.9 3-5, 7, 10, 11, 13, 14, 24, 25, 27, 31-33, 39</p>	<p>Ch. 4 4.1 1-10, 29-43 odd, 49, 53, 57, 61</p> <p>4.2 1-4, 7, 11, 13, 17, 18, 30, 34</p> <p>4.3 1, 2, 5-8, 9-17 odd, 19, 22, 25, 33, 39, 43, 45, 68, 69</p> <p>4.4 5, 9, 13, 17, - - etc. up to - - 61; 71</p> <p>4.5 1, 13, 21, 35, 47</p> <p>4.6 1, 4, 11, 13</p> <p>4.7 4, 5, 9, 11-13, 18, 25, 27, 30, 31, 33, 36, 47, 51, 53, 66</p> <p>4.8 5, 9, 13, 15, 21, 33, 39</p> <p>4.9 1, 3, 5, 7, 11, 15, 19, 25, 31, 33, 39, 43, 46, 57, 61, 63, 66, 72</p>
<p>Ch. 3 3.1 3-31 odd, 34, 35, 38, 49, 51, 54, 55, 58, 65, 75</p> <p>3.2 3-35 odd, 41, 44, 47, 55 a), 58</p> <p>3.3 1-25 odd, 32, 33, 39-49 odd</p> <p>3.4 1-45 odd, 51, 54, 55 a), 59, 69, 73, 93</p> <p>3.5 1-19 odd, 21, 25, 27, 33, 36, 40, 41, 45, 47, 53, 59-62 all</p>	<p>Ch. 10 10.1 1-4, 5-15 odd, 19, 20, 25, 31</p> <p>10.2 1-3, 6, 7, 9, 11, 13, 15, 17, 29, 30</p>		

Exam Schedule:

<u>Exam #</u>	<u>Covering</u>	<u>On or About</u>
1	Ch. 1 6 sec's	Jan. 17
2	Ch. 2 8	Feb. 5
3	Ch. 3 9	Feb. 28
4	Ch. 4/10 11	Mar. 22
Final	Comprehensive	Check Finals Schedule

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>Guaranteed Grade</u>
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Mini-Tests (approximately)	160	At least 88	A
Exams	400	At least 78	B
Final	100	At least 68	C
		At least 55	D
<hr/> Total Points Possible (approximately)	<hr/> 660	54 or below	F

* (i.e., from all minitests & exams you have 449 out of 660 points --> 68 % = C)

Student Learning Outcome(s):

*Analyze and synthesize the concepts of limits, continuity, and differentiation from a graphical, numerical, analytical and verbal approach, using correct notation and mathematical precision.

*Evaluate the behavior of graphs in the context of limits, continuity and differentiability.

*Recognize, diagnose, and decide on the appropriate method for solving applied real world problems in optimization, related rates and numerical approximation.