MATH 1A   FUNDAMENTALS OF DIFFERENTIAL CALCULUS   FALL 2020

MATH1A-27Z   CRN: 26047   Instructor: Nadia Bensidi
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Office Hours :   Tues. 6 – 7 pm, Friday 8:30-9:30am

Class hours: Tuesday, Thursday 1:30-3:45pm **Online** (synchronous) via **Zoom** on
CANVAS. You need a computer or laptop.

Textbook: James Stewart, Calculus Early Transcendentals, 8th edition with webassign access
code. You can choose to just buy the Webassign code, you will get access to the
e-book. However, This book is used in the sequence of Calculus (1A, 1B, 1C, 1D)

Prerequisite: MATH 43 or MATH 43H (with a grade of C or better), or appropriate score on
Calculus Placement Test within the past calendar year.

Advisory   EWRT 211 and READ 211 (or LART 211), or ESL 272 and 273.

Description: Fundamentals of differential calculus.

Course Objectives
A. Analyze and explore aspects of the differential calculus.
B. Compute and interpret limits of functions using analytic and other methods, including
L'Hospital's Rule.
C. Apply the definition of continuity using limits to analyze the behavior of functions.
D. Find the derivative of a function as a limit.
E. Derive and use the power, quotient, product, and chain rules to differentiate functions,
including implicit and parametric functions, and find the equation of a tangent line to a
function.
F. Use first and second derivatives to characterize the direction and concavity of graphs of
functions.
G. Apply the derivative to situations involving rates of change.
H. Solve problems about related rates by applying appropriate differentiation techniques.
I. Apply the Intermediate Value Theorem when locating roots of functions.
J. Interpret and apply the Mean Value Theorem for derivatives in relation to average and
instantaneous rate of change.
K. Formulate equations to model minimum/maximum problems and use derivatives to arrive at
plausible solutions.
L. Apply Newton's Method to find values of functions.
M. Define the antiderivative and determine antiderivatives of simple functions.

Student Commitment: • This is a demanding but rewarding class. This class expects students to
attend all classes and have a minimum of 10 hours of study each week outside of
class.

• Math 1A covers a lot of material and moves at a rapid pace. At De Anza College (and all colleges) each at least 2 hours of study outside of class are expected for each hour in class, for a total of 15 hours weekly.

 • If you don't have time for studying outside of class or can't commit to attending each class, then you should plan to take this class in a quarter when you can commit the necessary time to succeed.

• This is also a collaborative class. You will be expected to work in cooperation with your classmates (No exceptions). You will be expected to discuss ideas, questions and strategies with your group. Share your thoughts as often one idea will spark another and so on. Working in groups does not mean that students sit together quietly working alone and not talking with each other!

Materials: Graphing calculator TI84+. TI89 or TI92. Other calculator that do algebraic manipulation **are NOT allowed**.

Homework: The Homework is mandatory. The Homework will be available and graded online at WebAssign (http://webassign.net). You will need to purchase a code to access the Webassign homework. The lowest score will be dropped.

The Class Key is: deanza 0942 3536

Quizzes: Short quizzes are given, each worth 10 points. The lowest score will be dropped.

Exams: There are three exams each worth 50 points, and a FINAL exam worth 100 points. The final exam counts as 2 exams and the lowest score will be dropped.

Labs: Labs are in-class activities. Some of them will be collected and graded and worth each 10 points. You may need to finish the activity outside the class. No late paper will be accepted.

Attendance: You are expected to attend all classes (Please email me if you are going to be absent). If you miss two classes you'll be dropped from the class. It is your responsibility to drop the course. Please inform me by email if you do so.

Grade:

Homework	50pts			
Quizzes	50 pts.	A+: 96-100%	A: 91-95%	A-: 89-90%
Labs	50pts.	B+: 86-88%	B: 82-85%	B-: 78-81%
Exams (3@ 50)	150 pts	C+: 74-77%	C: 68-73%	
Final Exam	100 pts.	D : 60-67%		
T0TAL	350pts.	F: below 60%		

Free Tutoring:

I strongly encourage you to utilize this resource. More information can be found here: http://www.deanza.edu/studentsuccess/mstrc/

Student Services:
De Anza College has many support services to help you succeed in college. This web site leads you to information about financial aid, child care, counseling, academic support, disability support, student activities, and other services that are here for you.   http://www.deanza.edu/studentservices/

Disability Support Services:
If you need to contact the Disability Support Services, then please contact them as soon as possible. More information can be found here: https://www.deanza.edu/dsps/

Supplemental Resources:

 I encourage you to poke around the library and web to see what other supplemental resources exist. One great resource is the following link https://tutorial.math.lamar.edu/Classes/CalcI/CalcI.aspx

Academic Integrity:
This is pretty straightforward: Do not cheat on quizzes, exams, or directly copy other student's work. It is not worth getting caught and suffering the consequences. For more information about De Anza College's policy on academic integrity: https://www.deanza.edu/policies/academic_integrity.html

Your grade is based on points and not a "curve."

We expect you to answer word problems and questions with complete English sentences.

Last day to add: 10/3/2020

Last day to drop without W: 10/4/2020

Last day to request pass/no pass: 10/16/2020

Last day to drop with W: 11/13/2020

Final week: December 8-11, 2020

TENTATIVE SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday

Month					
September		**2.1** 22		**2.2** 24	
September October		**Quiz1 2.3/2.4** 29		**Quiz**2 **2.4/2.5** 1	
October		**2.6** 6		**2.7 lab1** 8	
October		**2.8** 13		3.1 **Exam1** 15	
October		**3.2/3.3** 20		**3.3/3.4 Quiz3** 22	
October		**3.4/3.5** 27		**Quiz4 3.5/3.6** 29	
November		**3.7/3.8** 3		**Lab2 Exam2** 5	
November		**3.9/3.10** 10	**Veteran Day No School** 11	**4.1/4.2** 12	
November		**4.2/4.3** 17	Ch3,7	**Quiz5 4.3/4.4** 19	
November		**4.6/4.7** 24		**Thanksgiving** 26	**No School**
November December		**4.8/4.9 Exam 3** 1		**4.9 Quiz6** 3	
December		**Final Exam** 1:45-3:45pm 8		10	

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.