Mathematics 1A-01223
Calculus: Fundamentals of Differential Calculus
Winter Quarter 2017
De Anza College

Instructor: Robert Ramsey

Phone: (408)864-8620(Office)
(510)479-4234(Cell.)

E-Mail: Ramseyrobert@FHDA.edu

Office Hours: Monday thru Thursday, 12:30 pm to 1:30 pm
De Anza College, Main Campus
PSME Building, Room S33

Lecture: Tuesday and Thursday; 4:00 pm to 6:15 pm
De Anza College, Main Campus
Rm. E34

Text: Calculus: Early Transcendentals, 8th Edition
Author: James Stewart
ISBN-13: 9781285741550
Publisher: Cengage Learning
Copyright: 2013

Prerequisites: Math 43, with a grade of C or better, or appropriate score on Calculus Placement Test within the last twelve months.

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

About the Course: This is the first course of the three course calculus series used at De Anza College to teach Calculus to lower division under graduate collegiate students. This course emphasizes the basic concepts of differential calculus. Students are encouraged to focus on the student learning outcomes and course objectives to garner a greater understanding of this course.

Student Learning Outcomes:

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

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

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

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 to analyze the behavior of functions.

D. Use the power, quotient, product, and chain rules to differentiate functions, including implicit and parametric functions.

E. Use first and second derivatives to characterize the direction and concavity of graphs of functions.

F. Apply the derivative to situations involving rates of change.

G. Solve problems about related rates by applying appropriate differentiation techniques.

H. Apply the Intermediate Value Theorem when locating roots of functions.

I. Interpret and apply the Mean Value Theorem for derivatives in relation to average and instantaneous rate of change.

J. Formulate equations to model minimum/maximum problems and use derivatives to arrive at plausible solutions.

K. Apply Newton's Method to find values of functions.

L. Define the antiderivative and determine antiderivatives of simple functions.

Study Group Information: Every student will be required to form a study group of two students. These groups will work together to complete their group projects.

Projects: The purpose of the in class projects is to place an emphasis on critical thinking, problem solving, and to expand every students understanding beyond the mere mechanical aspects of mathematics. The projects will place an emphasis on expository writing, making logical connections between algebraic, formulaic, tabular and graphical presentations of mathematical concepts.

Tests: We will cover chapters one through four of the Stewart Calculus: Early Transcendentals (8th edition) textbook and part of Chapter ten. There will be three ninety minute exams through the course of the winter 2017 quarter, with the exams occurring after the completion of chapters two, three and ten. Each exam will last approximately ninety minutes. There will be no make-up exams unless arrangements are made prior to the date of said exam, and said exam is taken before the regularly scheduled exam occurs.

Use of Technology: Students will use technology, computers and graphing calculators, to explore mathematical concepts graphically and numerically; therefore, the use of technology in this course is encouraged. The calculator of choice is the Texas Instruments TI-84 or TI-83 graphing calculator. The Texas Instruments TI-89 is also an acceptable calculator.

Homework: Homework is intended as a means of increasing every students understanding, and as a means of mastering the course material. Every student is required to register at www.webassign.net with the use of the course key **deanza 1989 5511**. All homework is assigned and completed online. Successful completion of every homework assignment should not be interpreted, in and of itself, as sufficient effort to pass Math 1A. In addition to the homework assignments online,

the handouts passed out in class, and any in-class assignments not completed, should be considered additional home work.

Quizzes: Quizzes will be available online and will count strictly as extra credit.

Class Participation: Attendance during lecture is mandatory and students are expected to be on-time without leaving early. Students are responsible for all announcements made in class, whether they are present or not. Successful performance in this course requires classroom attendance, completion of all in-class assignments, as well as homework online, and serious effort on the exams, the project(s), and the final.

Final: There will be a comprehensive final exam which will contain material from all chapters covered over the course of this winter quarter. The date of our Final Exam is **Thursday**, **March 30**, **2017**, from 4:00 pm to 6:00 pm in Rm. E34.

Grading:		
3 Exams (3 @ 15% each)		45 %
Homework		15 %
Class Participation		5 %
Group Project(s)		15 %
Final		20 %
Quizzes (Extra Credit)		5 %
TOTAL		100 %

Grades will be as follows:

A	=	93.00 to 100.00 %
A-	=	90.00 to 92.99
B+	=	87.00 to 89.99
B	=	83.00 to 86.99
B-	=	80.00 to 82.99
C+	=	77.00 to 79.99
C	=	73.00 to 76.99
C-	=	70.00 to 72.99
D	=	60.00 to 69.99
F	=	less than 59.99%

Academic Integrity: Any credible accusation of academic dishonesty, no matter how minor, will be investigated, and if found to be meritorious, will be dealt with severely. Students caught cheating will receive an F for that assignment and notice of the offense will be forwarded to the chairman of the department of mathematics and the Vice President for Academic Affairs for further punitive action.

Disruptive Behavior: Unruly or disruptive behavior to include incessant talking, rude, profane, or vulgar language, threatening or violent behavior, and\or any form of disrespect, directed at the instructor or fellow classmates will not be tolerated. Such behavior will result in the immediate and permanent removal of the offending individual from this course.

In addition, there has been an increasing problem of student's texting during class. All Math 1A students are requested to refrain from such behavior.

Important Dates:

Monday, Jan. 9 :: First day of Winter Quarter 2017.

Saturday, Jan. 21 :: Last day to add **quarter-length classes.** *Add date is enforced.*

Sunday, Jan. 22 :: Last day to drop **for a full** refund or credit **(quarter-length classes).** *Drop date is enforced.*

Sunday, Jan. 22 :: Last day to drop **a class with no record of grade.** *Drop date is enforced.*

Friday, Feb. 3 :: Last day to request pass/no pass **grade.** *Request date is enforced.*

Friday, March 3 :: Last day to drop **with a "W."** *Withdraw date is enforced.*

Monday, Jan. 16 :: Holiday: Observance of Martin Luther King, Jr.'s Birthday

Friday-Monday, Feb. 17-20 :: Holiday: Presidents' Day Weekend (no classes)

March 27-31:: [Final Exams](#)

Friday, March 31 :: Last day to [file for a winter degree or certificate](#)**.**

Friday, March 31 :: Last day of Winter Quarter

Monday, April 10 :: First day of Spring Quarter