Mathematics IC-42009

Calculus: Series, Sequences and Vectors
Spring Quarter 2016
De Anza College

Instructor: Robert Ramsey

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Office Hours: Mon thru Thu, 12:30 pm to 1:30 pm
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Lecture: Mon and Wed; 1:30 pm to 3:45 pm
De Anza College, Main Campus
Rm. E31

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

Prerequisites: Mathematics IB, with a grade of C or better, or its equivalent.

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 third course of the four quarter series of Calculus courses taught at De Anza College. This course emphasizes the fundamental concepts of series, sequences and vector calculus. These concepts include infinite series, lines and surfaces in three dimensions, vectors in two and three dimensions, parametric equations of curves, and derivatives and integrals of vector functions.

Students are encouraged to focus on the student learning outcomes and course objectives to garner a greater understanding of this course and of differential and integral calculus.

Student Learning Outcomes:

A. Graphically, analytically, numerically and verbally analyze infinite sequences and series from the perspective of convergence, using correct notation and mathematical precision.
B. Apply infinite sequences and series in approximating functions.
C. Synthesize and apply vectors, polar coordinate system and parametric representations in solving problems in analytic geometry, including motion in space.

Course Objectives:

A. Examine sequences and series, including power series.
B. Examine and apply the various convergence tests for infinite sequences and series.
C. Use power series to represent functions, and use polynomials to approximate them.
D. Examine the polar coordinate system, and graph, differentiate and integrate polar functions.
E. Investigate vectors in two and three dimensions and perform vector operations.
F. Examine vector functions, parametric curves and surfaces, and graph, differentiate and integrate curves in parametric form; compute arc length.
G. Investigate motion in space.
H. Determine the equations of lines and planes.

Study Group Information: Every student will be required to form a study group of two or three 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 ten through thirteen of the Stewart Calculus: Early Transcendentals, 8^{th} edition textbook. There will be four (ninety minutes each) exams. The exams will occur after the completion of chapter ten, the first half of chapter eleven, the end of chapter 11, and the end of chapter 12. Chapter 13 will be covered in the final exam along with all other chapters covered this quarter, i.e. the final exam will be comprehensive.

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.

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 our class' course key, which is **deanza 6259 1250**. 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 1C. 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: There will be a minimum of four quizzes assigned during the upcoming quarter. Quizzes will be unannounced, completed in class, and be used to determine every students quiz grade. Expect at least one quiz per chapter.

Class Participation: Attendance during lecture is mandatory and students are expected to be on-time and to refrain from 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, and homework; as well as, serious effort on the exams, quizzes, 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 spring quarter. The date of our Final Exam is Monday, June 20, 2016 at 1:45 pm to 3:45 pm in Rm. E31.

Grading:	4 Exams (@ 10% each)	40 %
	Homework	15 %
	In-Class Quizzes	10 %
	Group Project(s)	15 %
	Final	20 %
TOTAL		100 %

Grades will be as follows:

A	=	90.00 to 100.00%
B	=	80.00 to 89.99%
C	=	70.00 to 79.99%
D	=	55.00 to 69.99%
F	=	less than 55.00%

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 1C students are requested to refrain from such behavior.

Important Dates:

Monday, Apr. 4 :: First day of Winter Quarter 2015**.**

Saturday, Apr. 16 :: Last day to add quarter-length classes. *Add date is enforced.*

Sunday, Apr. 17 :: Last day to drop for a full refund or credit (quarter-length classes)**.** *Drop date is enforced.*

Sunday, Apr. 17 :: Last day to drop a class with no record of grade. *Drop date is enforced.*

Friday, Apr. 29 :: Last day to request pass/no pass grade. *Request date is enforced.*

Friday, May 27 :: Last day to drop with a "W." *Withdraw date is enforced.*

Saturday - Monday, May 28-30 :: Memorial Day Weekend (no classes)

Saturday - Friday, June 18-24 :: Spring Final Exams

Friday, June 24 :: Last day to file for a spring degree or certificate

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Friday, June 24 :: Last day of Spring Quarter

Saturday, June 25 :: Commencement Ceremony

Monday, June 27 :: First day of Summer Session