San José State University

Department of Mathematics and Statistics

Spring 2019

Math-71: Calculus for Business and Aviation
Sections 09, 11, 12

Course and Contact Information

Instructor:	Jeffery Cavallaro
Office Location:	Duncan Hall 209 (the TA room)
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Office Hours:	F 9am-noon (or by appointment)
Class Days/Time:	Section 09: TR 12:00pm–1:15pm Section 11: TR 3:00pm–4:15pm Section 12: TR 4:30pm–5:45pm
Classroom:	Duncan Hall 318
Prerequisites:	Any of the following: • A grade of C- or higher in Math 8. • A grade of C or higher in Math 19. • A score of 550 or higher on the math portion of the SAT. • A score of 23 or higer on the math ACT. • A score of 55 or higher on the CPE.
Corequisite:	Math-71W (the workshop)
GE/SJSU Studies Category:	Area B4

Course Description

Functions and graphs, limits, continuity, differentiation, integration, partial differentiation. Emphasis on business and economics applications.

Course Learning Outcomes

Upon successful completion of this course, students will be able to:

- Use the properties of exponential functions and logarithms.
- Compute simple, compound, and continuous interest.
- Explain the meaning of the limit of a function.
- Compute limits.

- Find derivatives of functions.
- Use the concept of the derivative in applications and be able to solve problems on maxima and minima.
- Evaluate integrals using substitutions and compute areas.
- Compute partial derivatives.
- Use Lagrange multipliers to find the extreme values of functions of several variables.
- Understand probability density functions, properties of various continuous distributions including mean and variance.

Required Texts/Readings

Corequisite

The workshop (Math-71W) is a corequisite for this course. Workshops are designed to help students succeed in Math courses. In a typical workshop, students work together in small groups on problems and projects to help them better understand concepts covered in the class.

Textbook

College Algebra and Applied Calculus, Larson/Hodgkins, **2th edition**, ISBN: 978-1133105060. Book and/or ebook is fine (your preference) and we *will* be using it in class. If using a book, then the special SJSU edition in the bookstore is suggested, since it contains chapter 16 (Probability), which we will cover. If using the ebook then make sure that you have a device on which you can access it during class.

Web

We will use both canvas and webassign. All class communications, including written homework assignments and grades, are via canvas (`sjsu.instructure.com`). Webassign (`webassign.com`) will be used for the major portion of the homework (see below). Once you are registered for the course you should be able to see the course listed on your canvas account. Each student must purchase a webassign license (or continue to use your one year license from last semester). The necessary webassign class code is posted in a canvas announcement and will be announced on the first day of class. Once you register your license, you will need this class code to access the class.

Calculator

You should have a scientific calculator for use on exams. You may use a TI-84 during class and while doing your homework when graphing may help you check your answers. *No other graphing calculators, cell phones, tablets, or computers are allowed in lieu of a scientific calculator on exams.* In particular, use of a TI-89 is prohibited.

Course Requirements and Assignments

Time

You will need to spend a *minimum* of 10 hours per week outside of class doing homework and studying. This class is intensive and will require disciplined study habits. Please, please, please do *not* register for 16 units and commit to a 20+ hours per week job; if you do then your chances of passing this class drop dramatically.

Reading

Reading from the textbook will be assigned each Thursday (in class and on canvas) for the material to be covered in the coming week. Please read everything, not just the stuff in the boxes, prior to lecture. Make sure that you can work all of the example problems prior to attempting any of the homework problems.

Web Homework

The web-based homework will be submitted via Webassign. Due dates, which occur frequently, are listed with the assignments. Webassign requires that you format your answers with math symbols using their answer tool. Don't get frustrated! It may take a couple times for you to get the hang of it; it will get easier the more you use it. The problems assigned on Webassign are problems from the book; however, the software may change some of the values involved. Since you will spend most of your time on this homework, it constitutes the largest percentage of your grade. So don't fall behind because there are *NO* extensions.

Written Homework

In addition to the web-based homework, there are eleven small written homework sets. Whereas the web-based problems are typically based on single concepts, the written homework problem will combine concepts and will need a little more thought. Homework will be assigned each non-exam week on Tuesday and is due on the following Tuesday by 5:45pm (when I leave campus). Late homework will not be accepted; however, I will drop your lowest score. See *Homework Rules* for more information.

Exams

There will be three regular exams in addition to a comprehensive final exam. The regular exam schedule is as follows:

Exam 1	Thursday, 2/21
Exam 2	Thursday, 3/28
Exam 3	Thursday, 5/9

Prior to an exam, I will post an announcement on canvas telling you exactly what to expect on the exam. All exams are closed book and closed notes. A calculator (as described above) is allowed;

however, any answers without supporting work receive zero credit. Instead of a note card, I will provide a derivative/integral cheat sheet where appropriate.

Final

The final exam is comprehensive and is scheduled as follows:

Section 9: Monday, 5/20, 9:45am to 12:00pm

Section 11: Tuesday, 5/21, 2:45pm to 5:00pm

Section 12: Monday, 5/20, 2:45pm to 5:00pm

Do not make any travel plans that occur prior to your exam date — attendance is mandatory.

I like to hold a voluntary review session on dead day (5/14).

Determination of Grades

Your semester grade is determined as follows:

Webassign Homework	40%
Written Homework	10%
Regular Exams	30%
Final Exam	20%

A+	100–97
A	96–94
A-	93–90
B+	89-87
B	86-84
B-	83-80
C+	79-77
C	76-74
C-	73-70
D+	69-67
D	66-64
D-	63-60
F	<60

A grade of C- or higher fulfills the Area B4 GE requirement.

Course Content

We will cover materials from chapters 7–11, 13, and 16 as follows:

Sections	**Weeks**
7.1–7.7	3
8.4–8.6	1.5
9.1–9.2	1
10.1–10.5	2
11.1–11.4	2.5
16.3–16.4	1
13.1–13.4	2.5

There will also be review material from chapters 0, 1, 4, and 5. Students will be responsible for self-review of this material; however, I will do some light review in class when needed. The workshop and office hours are also good places to obtain help with this review material.

Classroom Protocol

Attendance

I will not take attendance after the first week; however, it is important that you come (on time) to every class. The book has more information than we could possibly cover, so I will highlight in class what is important. Bring your book and calculator to every class meeting. If you miss a class, it is your responsibility to talk to your peers and find out what you missed.

Holidays

Class will not meet during Spring break (4/2 and 4/4).

University Policies

Per University Policy S16-9 (`http://www.sjsu.edu/senate/docs/S16-9.pdf`), information relevant to all courses: academic integrity, accommodations, dropping and adding, consent for recording of class, etc., is available on the Office of Graduate and Undergraduate Programs' Syllabus Information web page at `http://www.sjsu.edu/gup/syllabusinfo`. Please make sure to review these university policies and resources.