# Math 34A: Calculus For Social Sciences

## Winter 2020 Course Information and Syllabus

## Teaching Staff

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| **Instructor:** | Peter M. Garfield, garfield@math.ucsb.edu |
| **Teaching Assistants:** | Trevor Klar, trevorklar@math.ucsb.edu |
| | Garo Sarajian, gsarajian@math.ucsb.edu |
| | Sam Sehayek, ssehayek@math.ucsb.edu |

Office hours for all the teaching staff will be posted on the course GauchoSpace page.

## About the Course

Welcome to Math 34A! In this course we will study the foundations of single-variable calculus, the mathematics of quantities that depend on only one factor ("functions of one variable") and of the ways in which these quantities change as this single factor is varied. We will look at the process of differentiation, which tells us the rate at which a function is changing. This requires the study of limits, so we can understand an *instantaneous* change rather than an *average* change. We'll then apply the differentiation process to understand how to solve problems from a variety of disciplines.

**Textbooks:** The required textbook for this course is *Calculus and Mathematical Reasoning for Social and Life Sciences* by Daryl Cooper (ISBN-10: 0-7872-8698-2). We will cover the first 8 chapters, but other chapters are useful as well (check out chapter 16 on how to study math and science). You should **read this book** to get a fuller understanding of the material.

## Homework

There will be a homework assignment due before every class, usually at 8:00AM. The homework will be turned in electronically on WeBWorK; your perm number is your login and default password.

**Collaboration:** You are encouraged to form study groups and to work with each other on your homework. However, *you should understand any solutions you claim to know an answer for*. It is unacceptable to copy a solution or answer from the internet, a solution manual, fellow student, or any other source.

**A Comment about Homework:** Try to think of homework as a way to gain a deeper understanding of the material, rather than as a set of isolated problems. As soon as homework is posted, read through it, even if it deals with topics that haven't yet been covered in class. As you listen to lectures, make connections with the homework assigned; ask yourself how concepts and techniques from different homework sets relate to each other. When your homework is marked, look over any mistakes you've made and be sure you can correct them.If you still have questions after you have reflected on your homework carefully, be sure to follow up on them with someone on the teaching staff!

## Section

You are required to attend a weekly section with one of the TAs; these meet on Thursday and are scheduled when you enroll in the course. There is a short quiz during each section that will be counted as part of the homework grade. One purpose of these quizzes is to encourage your attendance, and so no make-up quizzes will be given.

## Getting Help

There are a number of resources available to you beyond your peers in the class and the teaching staff's office hours. See GauchoSpace for a full list.

## Exams

There will be three midterm exams and a final exam. The preliminary dates for the exams are:

| Exam | Date | Time |
|------|------|------|
| Midterm 1 | Wednesday, January 22nd | In class |
| Midterm 2 | Friday, February 14th | In class |
| Midterm 3 | Friday, March 6th | In class |
| Final Exam | Wednesday, March 18th | 8:00 to 11:00AM |

All the exams, including the final, will take place in our usual classroom.

## Grading

Your grade's raw score will be the average of the four main graded components in the course:

| Score | Grade |
|-------|-------|
| $\geq 93$ | A |
| $\geq 90$ | A− |
| $\geq 87$ | B+ |
| $\geq 83$ | B |
| $\geq 80$ | B− |
| $\geq 75$ | C+ |
| $\geq 70$ | C |
| $\geq 65$ | C− |
| $\geq 60$ | D+ |
| $\geq 55$ | D |

8% Midterm 1 + 13% Midterm 2 + 19% Midterm 3
+ 25% Homework* + 35% Final Exam

∗ The homework score includes a section (quiz) score and i>clicker score.

This raw numeric score will be rounded and converted to a letter grade according to the scheme at right. (These cutoffs *may* be adjusted downwards at the end of the course, to make your letter grades higher.)

## Great Effort

If you make a *great effort* in this class (which will be judged based on in-class participation, in-section participation, homework participation, and effort on exams), any grade from C to B− will be automatically bumped to a B.

## Disabilities Requiring Accommodation

If you need accommodation or assistance for a documented disability, please contact me as soon as you can. It's best to let us know well before the first midterm, so we can be sure to make the necessary arrangements.

***Enjoy the quarter. Good luck!***