Integral Calculus (Math 1B)
Syllabus

De Anza College

Spring 2025

Instructor
Luke Hibbs
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Hello everyone, and welcome to Integral Calculus! I am very excited to get to know everyone and help everyone have an amazing, informative experience as we go through the year. While in class, I highly encourage any questions regarding the material. If you ever have a question in class please raise your hand and I will be eager to answer it. Class lectures will be recorded and sent to the students' via email. If any questions arise regarding logistics or math while outside the classroom, do not hesitate to ask using my email above!

Textbook
Calculus James Stewart. 8^{th} Edition.

Grading

In order to receive full credit for *any* assignment it is imperative to show all of your work and justify each step you take while solving a problem. The more work you show, the more likely you will receive points. The following will be a *rough* distribution of grades:

40% Quizzes · 40% Exams · 20% Final

On Mondays, homework will be assigned through a PDF, by email, or in class. Homework will be selected exercises from the text and/or a pdf worksheet written by me. Homework will have no due date as it is not for credit; it will simply be a tool to gauge understanding of the material. Almost every Thursday, there will be an in-class quiz at the end of class. These will likely be only 1 to 3 questions and roughly half an hour will be allotted to complete the quiz. Further, each Thursday a *take-home* quiz will be assigned and due the following Thursday. There will be sixteen 10 point quizzes, but only your top fifteen quiz scores will go towards the final grade. Further, the lowest grade out of Exam 1 (50pts), Exam 2 (50pts), Exam 3 (50pts), can be replaced by your *grade* on the final exam (100 pts) assuming that your grade on final is an improvement. Notice, that your final *course* grade is out of 400 points.

Quizzes will be open note. Exams will not. Quizzes and exams will be written by me. The class flow and work load will loosely follow the book. I will not ask a question that has not been explained in the book or in class. All grades will be posted on Canvas and at the end of the year you will be assigned a letter grade. The lower cut offs are as follows:

A- 90 % · B- 80% · C- 70 % · D- 60% · F 0%

Academic Honesty

For quizzes and exams, a specific amount of time will be given to the students to view the assignment, write their answers on their own paper, take photos of their solutions on their phones, upload the photos to canvas, and submit the assignment. For quizzes, roughly an hour will be given. For exams, the entire class period (at least). I *will not* require you to be on zoom during the allotted quiz/exam hours.

I am fully aware of how easy it is to cheat in an online class. Using *chatgpt*, *photomath*, *wolframalpha*, *symbolab*, or any online calculator to do any of your work on quizzes or exams is strictly prohibited. Further, using forums such

as *mathstackexchange* or homework help websites like *quizlet* or *chegg* are also strictly prohibited. If you are caught cheating, the dean will be notified and you will receive an F on that particular assignment.

During each time period for quizzes and exams, I will be monitoring the forums for posts that resemble the questions I give. Further, I will look into any two or more students whose solutions look identical. If it is concluded that cheating was involved, *all* students involved will receive zero points for the assignment. In other words, do not *copy* solutions and do not *share* solutions.

Office Hours

Tuesday: 5:00pm-6:30pm (Online on Zoom)

Thursday: 5:00pm-6:30pm (Online on Zoom)

Tips for Success

Success in this class is reliant on your willingness to learn. I will not force anyone to get a good grade in this class. If you do not want to succeed in this class, that is your choice. That being said, if you *do* want to get a good grade in this class, I will do everything in my power to help you get it. The following are some things that the successful students in this class do :

- Take Notes
- *Do* the Homework
- Ask Questions
- Communicate

As always, please email me with any further questions. I am looking forward to the quarter!

TENTATIVE SCHEDULE

The following is a *rough* weekly schedule of content for the quarter as well as where to study in the book. It is subject to change as the year progresses. The dates listed are the first days of the given week.

W1: (4-8-2025) *Review & Areas* p. 295-305 Quiz 1 & 2
W2: (4-15-2025) *Definite Integrals & FTOC* p. 306-329 Quiz 3 & 4
W3: (4-22-2025) *Net Change & Substitution* p. 330-351 Exam 1
W4: (4-29-2025) *Areas & Volumes* p. 356-382 Quiz 5 & 6
W5: (5-6-2025) *Work & Average Values* p. 383-391 Quiz 7 & 8
W6: (5-13-2025) *inverse Functions & Hyperbolics* p. 399 - 510 Exam 2
W7: (5-20-2025) *By Parts & Trigonometric Substitutions* p. 512-532 Quiz 9 & 10
W8: (5-29-2025) *Partial Fractions & Improper Integrals* p. 533-579 Quiz 11 & 12
W9: (6-3-2025) *Arc Length & More Areas* p. 584-598 Exam 3
W10: (6-10-2025) *Differential Equations & Separable Equations* p. 626 -649 Quiz 13 & 14
W11: (6-17-2025) *Population Growth & Predators/Prey* p. 660-673 Quiz 15 & 16
W12: (6-24-2025) *Review* Final

Course Objectives

⋆ Analyze and explore aspects of the integral calculus.
⋆ Analyze and evaluate the definite integral as a limit of a Riemann sum and examine its properties.
⋆ Examine the Fundamental Theorem of Calculus.
⋆ Find definite, indefinite, and improper integrals using various techniques.
⋆ Apply the definite integral to applications.
⋆ Examine differential equations

Student Learning Outcomes

⋆ Analyze the definite integral from a graphical, numerical, analytical, and verbal approach, using correct notation and mathematical precision.
⋆ Formulate and use the Fundamental Theorem of Calculus.
⋆ Apply the definite integral in solving problems in analytical geometry and the sciences.

Student Learning Outcome(s):

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