

# MATH 1B: CALCULUS

Winter 2021

---

<b>Instructor:</b>	John Jimenez	<b>Time:</b>	MTWRF 12:30-1:20 p
<b>Email:</b>	<a href="mailto:jimenezjohn@fhda.edu">jimenezjohn@fhda.edu</a>	<b>Office Hour</b>	MTWR 1:30 -2:30 p

---

## Required Text and Recommended Materials:

- Textbook: Calculus: Early Transcendentals with Hyperbolic Functions, 8th Edition, J. Stewart.
- Calculator: Although not necessary for most of this course, it can sometimes be helpful to have access to some type of graphing calculator. This can be a physical graphing calculator or some kind of free online graphing tool such as <https://www.desmos.com/> or <https://www.wolframalpha.com/>.
- Access to <https://deanza.instructure.com/>. Canvas is where all of the course information will be available. Information regarding grades, lectures, resources, etc.

## Goals for Students in the Course:

- To build a solid foundation for future calculus courses.
- To build confidence in their academic abilities in the math class and beyond.
- Be able to collaborate and discuss mathematics with classmates.
- To gain intuition behind concepts in the course.

## Grading:

4 Midterm Exams	Homework and Quizzes	2 Projects	Discussions	Final
40 % (10% each)	30 %	10 %	5%	15 %

Grading scale	
$\geq 100\%$ A+	78-79.9% C+
93-99.9% A	70-77.9% C
90-92.9% A-	68-69.9 % D+
88-89.9 % B+	63-67.9% D
83-87.9% B	60-62.9% D-
80-82.9% B-	$\leq 59.9$ F

**Exams 40 % :** There are 4 midterm exams. These exams will be distributed via Canvas as a PDF and students will upload their completed work to Canvas.

**Homework and Quizzes 30 % :**

- There will be homework problems assigned from the textbook after each day of lecture.
- Following each week of class, there will be a quiz which will be turned in together with the weekly homework.
- The quizzes and homework will be graded on neatness, completeness, correctness, and effort.

**Projects 10 % :** There will be two projects throughout the quarter. Details will be given in Canvas.

**Discussions 5 % :** Each week there will be a discussion board in which you can interact with your classmates about the course content. Here is where we will try to build a sense of community and interact with others over the material and serve as a place for participation and collaboration.

**Final 15 % :** The final will be comprehensive. **Note** that the final will replace the lowest midterm exam score.

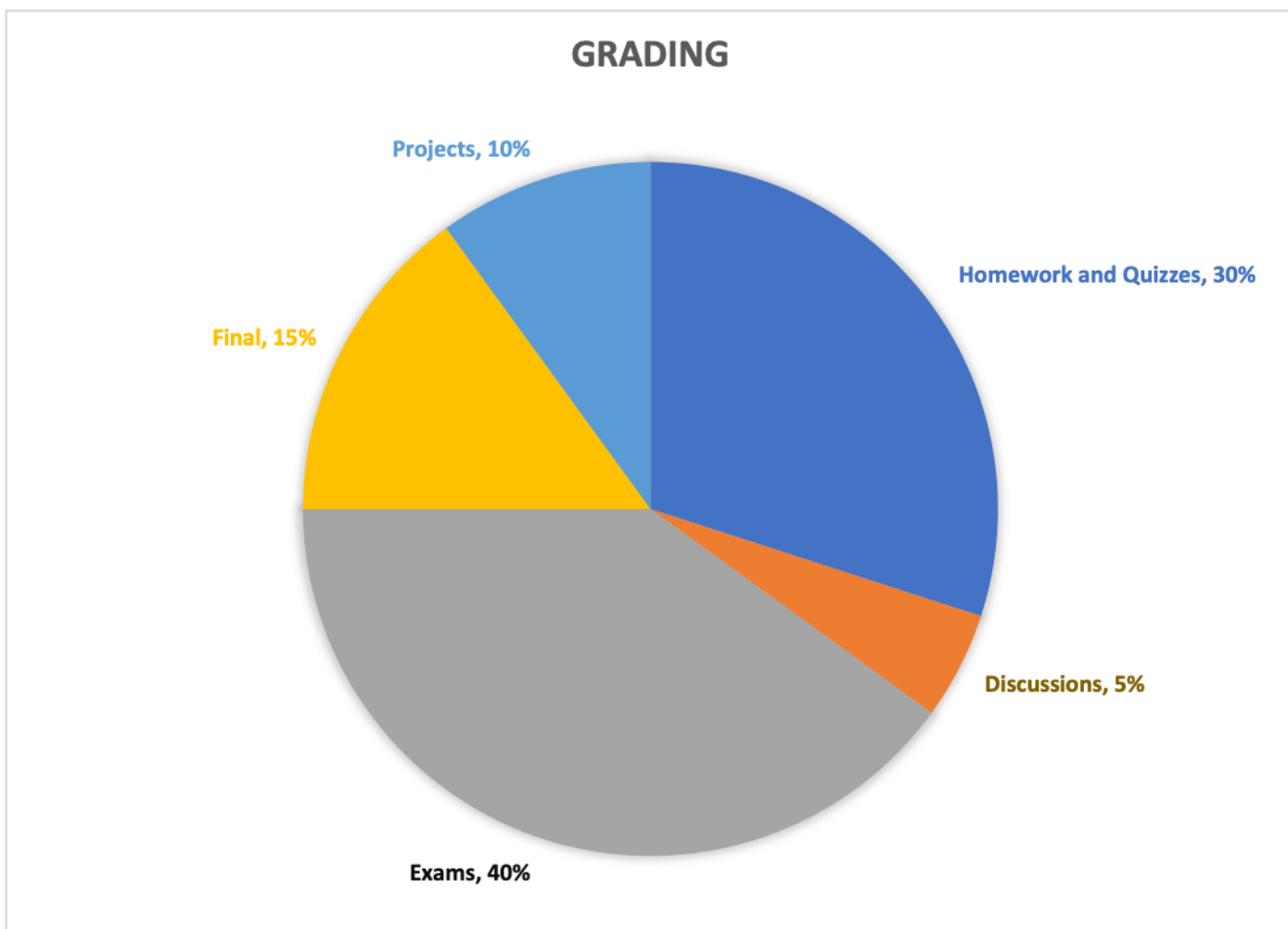


Figure 1: Grade breakdown for the course as a percentage.

**Extra Credit:** There will be ample extra credit opportunities throughout the quarter!

**Late Work:** No late work will be accepted. Due dates will be clearly given on the assignments in Canvas. There will also not be any make up work. To compensate for illnesses or emergencies, two of the lowest

grades in the Homework and Quiz category will be dropped.

**Attendance:** This class will be synchronously held via Zoom so attending means being present for the courses allotted time during the zoom sessions. As is the case with any class, being present is crucial and necessary for doing well in the course. Note that a student may be dropped from the course if participation is low. Specific reasons leading to dropping a student are given below.

**You may be dropped from the course if:**

- You miss 2 homework sets and or quizzes in a row.
- You do not interact with Canvas for a week.
- You miss 2 full weeks of synchronous meetings without contacting me prior to missing those meetings.

Note that if for any reason you feel like you may need to drop the course, it is your responsibility to do so.

**Academic Integrity:** If it is suspected that academic dishonesty is taking place on an assignment, the college will be notified and will result in a failing grade on the assignment or a failing grade in the class. For further information on academic integrity please see [https://www.deanza.edu/policies/academic\\_integrity.html](https://www.deanza.edu/policies/academic_integrity.html).

**Help and Support:**

- The Math, Science and Technology Resource Center (MSTRC): Here you can access free online tutoring via Zoom. See, <https://www.deanza.edu/studentuccess/> for further details. Net tutor, which can be accessed via Canvas, is another place you can find free online tutoring.
- I encourage students to make use of office hours! This is another great place to get help on material related to the course.
- The discussion boards will be a great place to collaborate with classmates regarding the course content.

**Disability Statement:** If you have a disability related need for academic accommodations or services in this course, you will need to provide me with a Test Accommodation Verification Form (TAV form) from Disability Support Services (DSS) or the Educational Diagnostic Center (EDC). Students are expected to give a two week notice if they are in need of accommodations. For those students with disabilities, you can obtain a TAV form from their DSS counselor (408 864-8753 DSS main number) or EDC advisor (408 864-8839 EDC main number). The application process can be found here: <https://www.deanza.edu/dsps/dss/applynow.html>

**Course Description:** Fundamentals of differential calculus. (5 units)

**Tentative Course Schedule:**

Week	Section
1	5.1 Areas and Distances 5.2 The Definite Integral 5.3 The Fundamental Theorem of Calculus
2	5.4 Indefinite Integrals and the Net Change Theorem 5.5 The Substitution Rule 6.1 Areas Between Curves
3	<b>Exam 1</b> 6.2 Volumes 6.3 Volumes by Cylindrical Shells
4	<b>Project 1 assigned</b> 6.4 Work 6.5 Average Value of a Function
5	7.1 Integration by Parts 7.2 Trigonometric Integrals 7.3 Trigonometric Substitutions
6	<b>Exam 2</b> 7.4 Integration of Rational Functions by Partial Fractions 7.7 Approximate Integrals 7.8 Improper Integrals
7	<b>Project 1 due and Project 2 assigned</b> 8.1 Arc Length 8.2 Area of a Surface of Revolution
8	8.3 Applications to Physics and engineering 8.5 Probability
9	<b>Exam 3</b> 9.1 Modeling with Differential Equations 9.2 Direction Fields and Euler's Method
10	9.3 Separable Equations 9.4 Models for Population Growth
11	<b>Exam 4</b> <b>Project 2 Due</b> 9.5 Linear Equations
12	Final Exam Wednesday from 11:30 AM to 1:30 PM.

**Important Dates:**

Date	
01/04	First day of winter quarter
01/16	Last day to add classes
01/ 18	Last day to drop classes without a W
01/18	Martin Luther King Jr. Holiday: No class
02/12-02/15	Presidents' Holiday: No class
02/26	Last day to drop classes with a "W"
03/22-03/26	Finals Week. Final Exam Wednesday from 11:30 AM to 1:30 PM.

For a more comprehensive list of important dates see <http://www.deanza.edu/calendar/>.

**Student Learning Outcome(s):**

\*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.