

**AP Calculus BC**  
San Mateo High School  
Room A157

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**Course Description:** Some of the topics which this course will focus on include functions and their representations, the derivative and rates of change, local linear approximation, the definite integral as a limit of Riemann Sums and as the net accumulation of a rate of change. The relationship between the derivative and the definite integral will be expressed using both parts of the fundamental theorem of calculus. L'Hopital's Rule, improper integrals, infinite series, and parametric equations and curves will also be covered.

**Texts:** *Calculus – Early Transcendentals*, James Stewart, 7<sup>th</sup> Ed. 2012

**Suggested Materials:**

- ✓ 3-ring binder (1.5 - 2 inches) with 5 dividers
- ✓ 3-hole punched lined binder paper
- ✓ 3-ring spiral bound notebook
- ✓ TI 83/84 Graphing Calculator (TI-84+ CE Silver Edition Recommended)
- ✓ [\[Graphing Calculator Required for the AP Exam\]](#)
- ✓ 3-hole punched graph paper
- ✓ Pencils and erasers



**Grading:**

Exams 40%	Unit Summaries 25%	Released AP Questions 20%	Homework 15%
Category weights are subject to change depending on the amount of material covered in the semester.			
Letter	A+ 97 ≤ %	A 94 ≤ % < 97	A- 89.5 ≤ % < 94
Grades	B+ 87 ≤ % < 89.5	B 84 ≤ % < 87	B- 79.5 ≤ % < 84
	C+ 77 ≤ % < 79.5	C 74 ≤ % < 76	C- 69.5 ≤ % < 74
	D 60 ≤ % < 69.5	F % < 60	

Semester grade calculation is truncated at the tenths place. No rounding.

**Policies:**

➤ **Homework** – Homework will be assigned and will be graded only on completeness. Students are expected to show all their work - methods must be correct and complete, and the final answer must be correct to three decimal places at the final step. Students are responsible following verbal and written instructions regarding requirements of their written work.

➤ **Exams**– There will be an exam on limits, derivatives, and applications of the derivative. Unless notified otherwise, students are not allowed the use of a calculator with a Computer Algebra System on in-class exams. Students are solely responsible for informing the teacher of and making arrangements to implement 504/IEP accommodations PRIOR to the date of any scheduled assessment. Students with the accommodation of extended time must take the exam in one continuous time frame, unless otherwise stated in the 504/IEP plan. Testing in alternate locations must be done with the supervision of a teacher, counselor, administrator or instructional aide. An e-mail must be sent by the supervisor to Mr. Rainaldi stating the date, time, and room location for testing, along with the method of delivering and returning the exam prior to the exam date. Unless stated otherwise in the 504/IEP plan, extended time is 150% of allotted time. Unit summaries due dates will be individually determined for students with 504/IEP plans. Guidelines for exams during Distance Learning will be given prior to exam dates. Students will be expected to upload their work within the class period similar to what will be expected on the AP Exam.

➤ **Unit Summaries** – Unit summaries will be assigned at the end of each unit. Students will be expected to summarize the main concepts of each unit in their own words and provide examples of their work from homework.

➤ **Released AP Questions** – Students will be assigned released free response questions from the College Board to prepare for the AP exam. Students will write solutions in their own words to each of these exercises. Students who copy scoring guidelines will get zero points for their work. Students will retain this collection of work as review material for the AP exam.

➤ **Cheating** – Academic and personal integrity is about honesty and ownership. Students who exhibit any indication that suggests cheating may have occurred will be given a written referral and zero the graded work, along with any other consequences resulting from violating the Bearcat Honor Code. Students are expected to report cheating directly to Mr. Rainaldi or <https://www.anonymousalerts.com/sanmateouhsd/>

➤ **Make-up work/exams:** No work will be accepted after the due date, unless there are unforeseen extreme circumstances that prevented a student from turning the work in on time, or students are given an agreement in writing by the teacher before the due/exam date for an extension. Students who are not present (excused or otherwise) on the due date are expected to have a parent/guardian, friend, etc. bring in their work before the start of the period the student would normally attend on the due date, or the work will be considered late and receive no credit. If a student is absent the day of an exam, the student is responsible to make up the exam within one week of their return to school or receive a zero for that exam. One make-up exam opportunity will be given for each exam, and must be taken during the scheduled block period, with teacher/counselor/administration supervision. The course is considered finished at the end of the period of the scheduled final exam.

### **Expectations:**

Students will be expected to analyze work numerically, graphically, and analytically, making connections amongst all three types of representations. Students will use their graphing calculator to explore, solve, and support concepts and exercises. Students will learn how to use built-in functions of the calculators, along with programs I will provide that will be useful for the exam. The teacher will not support/teach how to use calculators other than the TI83/84 in class.

Students are expected to communicate their solutions both verbally and in writing. Students will be expected to do work individually, in pairs, and small groups. Students are encouraged to form study groups. Students will demonstrate their knowledge of the mathematics behind a solution, and the listener/reader should be able to hear/see what you've said/written as accurate, easy to follow (clearly demonstrating all key steps), and that your written explanation correctly reflects your steps and approach to the problem. Labeling your answers with proper units and writing complete sentences is required of all solutions. Solutions are graded on the correctness and completeness of method, as well as accuracy.

Students are expected to be in their seats, ready to take notes and work when the bell rings, or they will be marked tardy. All electronic devices except a graphing calculator are expected to be out of sight, not used in any way during class time unless directed otherwise by the teacher, or a referral for electronic devices will be issued. If students are using a graphing calculator for any reason other than calculus, all memory will be reset to factory defaults. It is the student's responsibility to have back-ups of anything on their calculators.

I expect all my students and their parents to check Canvas regularly.

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**Parents:** (Please read, sign, and detach)

I have read this syllabus, and so has my child. We both understand and agree to all policies outlined in this syllabus:

Name (please print): \_\_\_\_\_

Your Child's Name (please print): \_\_\_\_\_

Your Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_