

# AP Calculus AB Expectations 2021

**Mrs. Michele Schempp**

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Welcome to the rest of AP Calculus AB! Calculus will be broken into three main topics of study: 1-Functions and their Limits, 2-Derivatives and 3-Integrals. We will study these topics utilizing Algebraic, graphical, verbal and numerical methods. Concrete knowledge of all prior math subjects is critical for your success in this class.

## Grading Policy

1. Grades are based on the following percentages:

Tests/Final Exam	50%
Quizzes/Pop Quizzes	25%
Home/Classwork	13%
Online Topics/Projects	12%

- Tests will be given in the middle and/or at the end of each unit of study. Tests will always be announced in advance of the date given and will not be delayed due to an absence the day before or the day after the announced test date. Calculators will not always be allowed on tests and or problems. The only extra credit available in my class is in the form of occasional challenge questions at the end of tests. I do not give extra credit to improve grades. Tests will be submitted through Google Classroom in a timely manner before leaving my classroom.
- Quizzes will be given often and may or may not be announced. Calculators will not always be allowed on quizzes. Quizzes missed due to an absence must be made up upon return and before they are passed back. Quizzes will be submitted through Google Classroom in a timely manner before leaving my classroom.
- Homework/Classwork is an important part of your grade and will be given daily. I accept late work due to an excused absence. You will have one day for every day of excused absence to make up the missed work. I expect all students to give maximum effort in all work. All assignments will be submitted through Google Classroom by 3pm on your asynchronous day.
- Notes are an important tool for learning the required material and will be given on a daily basis. You are encouraged to take notes to use as a reference as you work on assignments.
- Final Exams will be given each semester. Arrangements must be made in advance if you are going to be absent on the day of the final exam.
- Online topics will be assigned from various websites (Delta Math, Khan Academy, College Board, etc) to reinforce what we are learning in class. You will be required to complete topics as they are assigned.

Please Note: Truant, unexcused or unverified absences will result in a zero being averaged into your grade for missed homework, quizzes, tests and/or the final exam.

7. All students **EARN** their grades in my class. I do not round or curve progress report or semester grades. The scale is as follows:

90.0-100 A 80.0-89.9 B 70-79.9 C 60.0-69.9 D 59.9 and less F

### Grades

I use the Aeries program and update grades weekly after the third week of each semester. I encourage all parents to get access to this valuable tool. I plan to email student grades to parents every three weeks this year.

### Absences

Consistent attendance in this class is strongly advised. It is your responsibility to get and complete any missed notes, homework, classwork, quizzes, and/or tests in the time allotted. You will have one day for every day of an excused absence to make up work. If an absence is truant, unexcused or unverified, then all missed work will be averaged into your grade as a zero. Being absent on a day of the test review will not delay taking the test and you will be required to take the test on the scheduled test day since I announce test dates well in advance. If you are absent on the day of the test, then you will be required to take the exam on the day that you return.

**PLEASE NOTE:** *I expect you to remain current on any work that you miss while participating in on campus activities. You will not get extra time for these situations. Please make arrangements to take quizzes that are missed due to on campus activities on that day.*

### Technology

I will use a Texas Instruments TI84 Plus graphing calculator regularly in class and strongly recommend that you have one as well since you will be allowed to use it on parts of the AP test and will need to be familiar with how it works and what it and you are capable of. Some graphing calculators are available to be checked out in the library with teacher approval. Students must understand that they will be charged the replacement cost for calculators that are not returned, or are lost, stolen or damaged. Please speak with me if you are in need. We will use Google Classroom as the hub for all work assigned and submitted.

### Classroom Rules

1. **Follow all school rules.** This includes the district dress code, academic honesty policy and phone policy.
2. **Be respectful to everyone.** This rule covers it all. Disrupting my teaching or the learning of others will not be tolerated.
3. **Be on time.** My tardy policy follows that of the student handbook and tardies are accumulated throughout the semester.
4. **Be prepared.** Recommended: paper, textbook, spiral or composition notebook just for this class, pencil, different colored pens, and a graphing calculator (you may NOT use your phone as a calculator).
5. **Be honest.** Cheating of any type will result in a zero on the assignment, quiz or test for both parties involved. Please see the student handbook for a definition of academic dishonesty.
6. **No eating, drinking (except water) or gum chewing is allowed in my class. I HATE GUM!**

### Electronics Policy

Phones should be out of sight in my class unless we are using them to complete our work. Please turn off the sounds so that they do not interrupt our learning. Graphing calculators are encouraged, but apps on the phone cannot be used as a substitute as they will not be allowed on the AP Test. This will be a work in progress since phones will be needed to take pictures of all work.

## Consequences for Infractions of the Rules

*Breaking classroom rules will result in one or more of the following: a warning, a detention, a phone call home, or a referral to the counselor or assistant principal. Consequences will be determined according to the severity of the infraction and your prior history of behavior in my classroom.*

## AP Calculus AB Pacing Guide 2020-21

<u>1st Semester (17 weeks + 1 Finals week):</u>	<u>2nd Semester (19 weeks + 1 Finals week):</u>
Trig Review/Summer Assignment work <i>Unit 1: <u>Limits and Continuity</u></i> <ul style="list-style-type: none"><li>• Speed, Limits, Sandwich Theorem, Continuity, Rates of Change</li></ul> <i>Unit 2: <u>The Derivative</u></i> <ul style="list-style-type: none"><li>• Differentiability, Intermediate Value Theorem, Rules for Differentiation, Applications of the Derivative, Velocity, Implicit Differentiation</li></ul> <i>Unit 3: <u>Applications of the Derivative</u></i> <ul style="list-style-type: none"><li>• Extreme Values, Mean Value Theorem, Graphs for <math>f'</math> and <math>f''</math>, concavity and inflection points, Optimization</li></ul> <i>Unit 4: <u>The Definite Integrals Part 1</u></i> <ul style="list-style-type: none"><li>• Riemann Sums, Definite Integrals, Properties of Integrals, the Fundamental Theorem of Calculus</li></ul> <i>Review and Final Exam</i>	<i>Unit 4: <u>The Definite Integrals Part 2</u></i> <ul style="list-style-type: none"><li>• Riemann Sums, Definite Integrals, Properties of Integrals, the Fundamental Theorem of Calculus</li></ul> <i>Unit 5: <u>Differential Equations and Mathematical Modeling</u></i> <ul style="list-style-type: none"><li>• Anti-derivatives, Slope Fields</li></ul> <i>Unit 6: <u>Applications of Definite Integrals</u></i> <ul style="list-style-type: none"><li>• Net change, Area, Volume</li></ul> <i>Unit 7: <u>Review/AP Exam Preparation</u></i> <ul style="list-style-type: none"><li>• <i>Semester 2 Final Exam will be taken during this time prior to the AP Test</i></li></ul> <i>Unit 8: <u>After the AP Exam</u></i> <ul style="list-style-type: none"><li>• Integration by Parts, Shell Method</li></ul>

*“Education Code Section 49011 (a) states: ‘A pupil enrolled in a public school shall not be required to pay a pupil fee for participation in an educational activity.’”*

*The intention of this course is to prepare you to take the AP Calculus Test in May, however students are not required to take nationally administered Advanced Placement exams or pay AP exam fees.*

According to the College Board's Calculus Curriculum Framework - "Before studying calculus, all students should complete the equivalent of four years of secondary mathematics designed for college-bound students: courses which should prepare them with a strong foundation in reasoning with algebraic symbols and working with algebraic structures. Prospective calculus students should take courses in which they study algebra, geometry, trigonometry, analytic geometry, and elementary functions. These functions include linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise defined functions. In particular before studying calculus, students must be familiar with the properties of functions, the composition of functions, the algebra of functions, and the graphs of functions. Students must also understand the language of functions (domain and range, odd and even, periodic, symmetry, zeroes, intercepts, and descriptors such as increasing and decreasing). Students should also know how the sine and cosine functions are defined from the unit circle and know the values of the trigonometric functions on the first quadrant of the unit circle and their multipliers."