

AP CALCULUS BC – SUMMER CHECKLIST

REMIND INSTRUCTIONS

- The first document contains instructions for joining the Remind class discussion group. After 7/8/19 and before the first day of school, please follow the instructions and join the group. (Do not join before 7/8/19 as the group will be purged of 2018-9 students and you will have to re-join.)

SYLLABUS

- The second document is the course syllabus. Please read it carefully.
- You must have a three-ring binder and loose-leaf paper the first day of class.
- You must have a graphing calculator. I recommend either the TI-Nspire CX CAS or the TI-84+CE.

STUDY NOTES

- Please read the document titled “AP Course Guidelines”.
- Please study the document titled “How to Succeed in AP Calculus” very carefully. This document contains a lot of information that will be critical to your success during next school year.

REVIEW LIMITS

- Review limits, which we will be discussing the first day of school.
 - Finding limits graphically and numerically
 - The three ways that limits fail to exist
 - Evaluating limits analytically (dividing out, rationalizing)
 - Squeeze Theorem
 - Stepwise functions and one-sided limits
 - Continuity on a point and on an interval
 - Intermediate Value Theorem
 - Infinite limits and vertical asymptotes
 - Limits at infinity and horizontal asymptotes

CONTRACT

- Please read and sign the contract.
- Please have a parent or guardian read and sign the contract.
- Please bring the signed contract to the first day of class.



Sign up for important updates from Mr. Dominguez.

Get information for Everglades High School right on your phone—not on handouts.

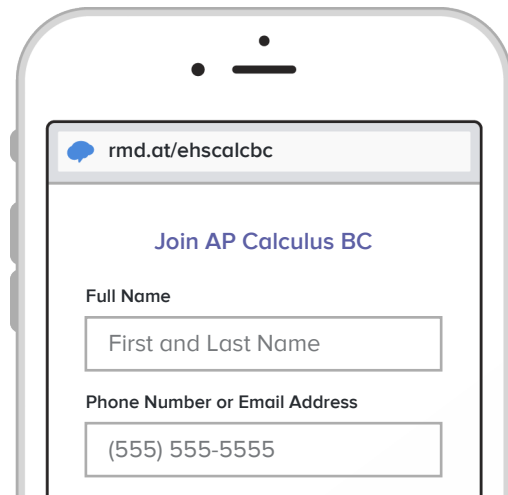
Pick a way to receive messages for AP Calculus BC:

A If you have a smartphone, get push notifications.

On your iPhone or Android phone, open your web browser and go to the following link:

rmd.at/ehscalcbc

Follow the instructions to sign up for Remind. You'll be prompted to download the mobile app.



B If you don't have a smartphone, get text notifications.

Text the message [@ehscalcbc](#) to the number **81010**.

If you're having trouble with **81010**, try texting [@ehscalcbc](#) to **(954) 883-9389**.

** Standard text message rates apply.*



Don't have a mobile phone? Go to rmd.at/ehscalcbc on a desktop computer to sign up for email notifications.

AP CALCULUS BC

2020 AP Exam Date: Tue May 9, 8:00am

[Student Acknowledgement Form](#)

[Remind Instructions](#)

Course Description

AP Calculus BC is equivalent to a two-semester college calculus course (i.e., MAC 2311-2312 in the Florida University System). The course covers limits, differential calculus, integral calculus, and power series.

Prerequisite

Students should have completed a course equivalent to Honors Calculus with an overall grade of B or better.

Required Materials

- Graphing calculator. I will be using a TI-84CE+ in class, but any of the calculators on the AP approved list is acceptable.
- A three-ring binder to keep lecture notes, problem assignments and class handouts. It is essential that you have a binder with loose-leaf paper rather than a notebook because you will often have to pull sheets out for classwork or to turn in work. **This requirement will be strictly enforced by frequent random graded binder checks.**
- Loose-leaf paper, pens (black/blue for work and red/green for corrections), pencils, etc.
- Dry-erase markers

Textbook

Larson & Battaglia, *Calculus for AP* (Cengage, 2016)

Grading

Nightly homework, daily homework confirmation quizzes, quizzes upon completion of each concept (approximately every other class day), and exams upon completion of each major topic (approximately every 4-5 class sessions).

Schedule of Topics (First Three Quarters)

Unit 1: Limits and Continuity

Unit 2: Differentiation – Definition and Basic Derivative Rules

Unit 3: Differentiation – Composite, Implicit, and Inverse Functions

Unit 4: Contextual Applications of Differentiation

Unit 5: Analytical Applications of Differentiation

Unit 6: Integration and Accumulation of Change

Unit 7: Differential Equations

Unit 8: Applications of Integration

Unit 9: Parametric Equations, Polar Coordinates, and Vector-Valued Functions

Unit 10: Infinite Sequences and Series

Advanced Placement Course Guidelines

Students taking an Advanced Placement (AP) course at Everglades should understand the following information:

- An AP course is the equivalent of a college-level course. The curriculum for an AP course, as set by College Board, is designed to prepare students to take a national exam in May. Everglades students enrolled in an AP course are required to take the AP exam.
- Taking an AP course means having to complete assignments at a very fast pace. The pace of an AP course is set by College Board. To develop the skills necessary and to learn the content required for the AP exam, the course must move at a steady (some say rapid) pace. Students in an AP course must feel comfortable if the class moves on to another skill or new content before they have mastered the previous skills and content.
- Taking an AP course means doing more work. You can expect to have longer assignments and more work outside of regularly scheduled class time. Students should expect to study **at least** 90 minutes outside of class for every 90 minutes spent in class.
- The content and skills to be mastered in an AP course are more sophisticated than those in previous courses. Students moving into an AP course will generally see their grades go down. Almost every student in AP Calculus earned an A in Pre-Calculus Honors, but experience indicates that few will do so in AP Calculus. If you are a student for whom it is important to get an A in every course, then an AP class may not be right for you.
- Just because you are eligible to take an AP course does not mean you should take an AP course. Students who have a deep interest in the course material, who are willing to work longer hours, who can work independently and think abstractly in the discipline, AND who can balance such a commitment with their other obligations and goals (particularly other Everglades AP courses) tend to have the most positive experiences in an AP course.

How to Succeed in AP Calculus

KEEP UP WITH THE ASSIGNMENTS! The best predictor of students' success is whether they keep up with their assignments. Students who keep up, do well; students who don't, don't. **I will help you stay on top of this goal with daily assessment.**

REMEMBER THE GOAL OF AN ASSIGNMENT IS TO UNDERSTAND THE MATERIAL! You understand the material when you can do the problems – get them right – BY YOURSELF. There is absolutely nothing wrong with asking questions or seeking help from your fellow students or me. However, the goal of the assignment is NOT just to get the assigned problems finished and turned in! Use the homework to make sure you know how to do the problems. **Every homework assignment will be followed by a quiz or test to make sure you don't forget this important point.**

TREAT ASSIGNMENTS AS PRACTICE TESTS. Fifty percent of the score on the AP Exam (as well as most quizzes and all tests during the year) will be determined by solutions to free-response questions. For these problems, the correct answer counts for as little as twenty-five percent of the total score. The rest of the points are awarded on the quality of the solution to the problem. This means that if you have correct answers for all problems – with no (or disorganized, or incomplete, or unreadable) supporting work – you will fail miserably. If you have a few incorrect answers, but well-organized, complete solutions that use proper mathematical vocabulary and notation, you will generally do well. Use your assignments as an opportunity to practice presenting well-organized mathematical solutions to problems. **All quizzes, tests and other work will be graded to AP standards.**

NEVER ERASE. If you hit a "dead end" and want to start over, cross out the work you don't want with a big "X" – do NOT erase it. It might turn out later to be correct! Also, if you come to me for help, the first thing I will say is, "Let me see what you have done so far." If you tell me that you erased it, you will just have to go back and reproduce it from memory. Erasing can be a big timewaster on tests. **Work that is "X"'d out will not be graded on tests – including the AP Exam.**

READ THE BOOK. This is important in every class, but in calculus the text serves as a valuable supplement. It is NOT just a place to find homework problems. Read the book slowly, line-by-line, with a pencil and paper nearby. Work through the examples, particularly the ones referenced in the PowerPoint presentations but not solved in class. Be sure you understand how the author gets from one step to the next. **Problems very similar to (and in a few cases exactly like) the examples will show up on quizzes.**

LEARN THE VOCABULARY, SYMBOLS AND NOTATION. It is vitally important that we can communicate in the language of mathematics. As you read the textbook or participate, pay attention to the meaning of each new term and symbol. Make sure you always use correct notation. **Incorrect notation will result in points taken off on quizzes and tests.**

UNDERSTAND THE USAGE OF AND MEMORIZE EACH NEW FORMULA. It is crucial to your success at just about everything that we will do this year. Of course, I don't mean that you need to memorize every line of the book, but when I say, "You need to know this." – I mean it! Having a calculator does **not** mean that you don't need to know any mathematics. **Many quizzes**

How to Succeed in AP Calculus

and tests will include questions that require straightforward recall of memorized information.

REVIEW CONSTANTLY. We will review extensively in class, so this will be somewhat automatic. Don't hesitate to go back to review or seek help on algebra and trigonometry skills that you may not have mastered sufficiently in earlier courses. Most errors students make on quizzes and tests are **not** calculus mistakes – they are algebra and trigonometry mistakes. **Lucky for you, every quiz and test is cumulative to remind you to review.**

TAKE GOOD NOTES. Good notes are essential for success in any technical field. They are essential for review – not only for tests, but also for the problems you will work that evening! **Each day's lesson will be accompanied with a "placemat" that will help you organize that day's work.**

EVERY MINUTE OF CLASS TIME IS VALUABLE! Use the time at the beginning of class to get ready for calculus – get out your books, calculator assignment, binder, pencil, pens, etc. What questions do you have about yesterday's work? Socializing may be more pleasant than math, but the goal is to make math more pleasant, and socializing gets in the way. There will be a bell-ringer exercise to get you started. At the end of the discussion period, begin the assigned work right away – what better time to get help if you get stuck? We only spend class time on important topics, so take good notes constantly. There will be an exit ticket to make sure you work until the end of the period. **Each day, some component of your classwork will be collected for a grade.**

ORGANIZE. Your success depends on your ability to recall (or find, relearn, and then remember) concepts and techniques which were introduced earlier. If your notes and assignments are scattered about, folded inside the covers of your book, or papering the floor of your car, you're sunk. **Good note-taking habits will be reinforced through frequent random graded binder checks.**

BE READY FOR CONSTANT ASSESSMENT. We will have a major unit test at the end of each of the eight units. Each test will concentrate on the material from the current unit but will cover **everything** from the first day onward. Additionally, we will have quizzes at the completion of each topic. Finally, for most homework assignments, we will have a short quiz that will be strikingly similar to the homework due the day before. **There will be a quiz or test every day, without exception.**

SEEK HELP AGGRESSIVELY. Everyone, no matter how smart or proficient in math, will get "stuck" sometime this year. Perhaps there is a new concept or technique that just won't fit into place in your brain. Tenacity and self-sufficiency are great attributes, but there is going to be a quiz on this stuff tomorrow! Sometimes there just isn't time to be tenacious! Attend the morning help sessions. Ask questions. Get the help you need to succeed. **I will be calling on students randomly each class to lead discussions, so make sure that if you get stuck you have gotten the help you need.**

BECOME AS SELF-SUFFICIENT AS POSSIBLE. *(Yes, I am aware that this guideline contradicts the previous one. Nonetheless, both principles are valid. Life is full of ambiguity.)*

How to Succeed in AP Calculus

There are many students and just one teacher, and time is too valuable for you just to wait for help. Look in the text and your notes for sample problems that might shed some light on your difficulty. **Learn tenacity – don't just "fold" at the first sign of difficulty!** (*This is an important life skill, well beyond the calculus classroom.*) Is there another way to approach the problem? You can do it!

BECOME PROFICIENT AT USING A GRAPHING CALCULATOR. Your calculator is a valuable tool for visualizing and solving problems of all sorts. On parts of the AP Exam, as well as on quizzes and tests during the year, you will be required to demonstrate your mastery of the graphing calculator as a mathematical tool. Learn to use it well. Become familiar with ALL the ways that your calculator can be used to solve a problem.

BECOME PROFICIENT AT NOT USING A GRAPHING CALCULATOR. Be aware that you may not use your calculator for all parts of the AP Exam, and that quizzes and tests will contain "No Calculator" problems. In all cases, you will be required to demonstrate your understanding of calculus. You will be required to provide symbolic or numerical solutions, and you must be able to explain your solutions using correct mathematical symbolism and vocabulary.

COMMUNICATE. If you have a worry, complaint, suggestion, or concern of any kind let me know. I can't fix it if I don't know about it. Remember that just because a problem – or a solution – seems obvious to you, it may not be obvious to everyone. Speak up!



Advanced Placement Contract – Calculus BC

Requirements:

- Before the first day of class, students should read and agree to abide by the conditions stated in the AP Course Guidelines, the course syllabus, the “How to Succeed in AP Calculus” article, and this contract.
- Most homework assignments will not be turned in. Students must understand that this does NOT mean there is no homework. The learning objective for such assignments is for the student to understand how to solve the suggested problems. If the student does not complete the homework, the student will most likely fail the corresponding quiz.
- End-of-unit assignments (which do have to be turned in) should be completed by the due dates given. Other than in the case of absence, late work will not be accepted.
- Students should be prepared for class every day, ready to participate fully in class discussions, individual class work, quizzes and/or examinations, and any other work determined necessary by the teacher.
- Students are required to take the first semester exam. There are no exemptions available for the first semester exam.
- Exam solution sessions (particularly for 4th quarter mock exams) will be scheduled immediately after school on certain dates (advance notice will be given). Students are responsible for their own transportation to classes scheduled when buses do not normally run. Material covered during these sessions will be essential knowledge; these are not optional.
- A full-length mock exam will be scheduled on a Saturday in 4th quarter (tentative date: April 20, 2020, 8:00 am – 12:00 noon).
- Cheating will not be tolerated in any form. Students who cheat will receive a grade of zero on the assignment or assessment and will be subject to disciplinary action.
- Students are required to take the AP exam on Tuesday, May 5, 2020, 8:00 am – 12:00 noon (college credit may be given for students who earn a score of 3 or better, decided by individual colleges at their sole discretion). Students who do not take the AP exam will not get the additional quality point in their GPA calculation, will not be eligible for exemption from the second semester exam, and will incur a financial obligation.

I affirm that I have read this contract and agree to abide by its stipulations.

Student Signature

Date

I affirm that I have read this contract and support my student’s decision to take this course. I understand the ramifications of this course selection.

Parent/Guardian Signature

Date

Please return this contract to Mr. Dominguez on the first day of class.