

# How to Succeed in AP Calculus BC

**KEEP UP WITH THE ASSIGNMENTS!** Over the years, I have found that the best indicator of a student's success is whether they keep up with their assignments. Students who keep up, do well - students who don't, don't. I won't kid you - AP Calculus is a long, grueling trek, but it is essential that you **KEEP UP**.

**REMEMBER THAT THE GOAL OF AN ASSIGNMENT IS TO UNDERSTAND THE MATERIAL - NOT JUST GET THE PROBLEMS DONE!** You understand the material when you can do the problems - and get them right - **BY YOURSELF**. There is absolutely nothing wrong with asking questions or seeking help from your fellow students or me. Everyone will need help sooner or later in this course. However, you must have the integrity to realize that the goal of the assignment is **NOT** just to get the assigned problems finished! When I select problems for an assignment, I try to pick enough representative problems to provide adequate practice for the "average" student (not, believe it or not, to provide you with hours and hours of useless drudgery!). There will be times when you will need more practice than this, and you must have the courage and integrity to realize it.

**TREAT ASSIGNMENTS AS "PRACTICE TESTS."** Fifty percent of your score on the AP test will be determined from your 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 your 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 Calculus vocabulary and symbolism - you will generally do well. Use your assignments as an opportunity to practice presenting well-organized mathematical solutions to problems.

**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 that 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 (where time is very valuable). Material that is "X"d out will not be graded on tests - including the AP test.

**READ THE BOOK.** This is an important skill to learn for college. In this class the text serves as a valuable supplement to what happens in class. It is **not** just a place to find the homework problems. Read the book slowly, line-by-line, with a pencil and paper nearby. Pay particular attention to the illustrations and examples. Study the examples carefully. Work through them with the authors. Be sure that you know how the authors get from one step to the next. Many college textbooks, like ours, skip multiple steps. If you can figure out, how they got from one step to the next that will ensure you really understand.

**LEARN THE VOCABULARY AND SYMBOLS.** It is vitally important that we can communicate in the language of mathematics. As you read or participate in class, pay particular attention to the meaning of each new term and symbol.

**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!

**REVIEW CONSTANTLY.** Lucky for you, this course is cumulative; therefore, review is *somewhat* automatic. Don't hesitate to go back to review or seek help on algebra, geometry, and trigonometry skills that you may not have mastered sufficiently in earlier courses. Most of the errors that students make on tests are **not** calculus mistakes - they are algebra, geometry, and trigonometry mistakes. That's why I gave you the summer packet.

**TAKE GOOD NOTES DURING EACH CLASS.** Most notes are already typed for you. However, asking questions and adding to them are essential for success in this class. They are essential for review - not only for tests, but also for the problems you will work that evening! Many former students have told me that their class notes made a valuable reference for them even three or four years later in college.

**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, papering the bottom of your locker or the floor of your car, you're sunk.

**BECOME AS SELF-SUFFICIENT AS POSSIBLE.** There are many students, and just one teacher, and time is too valuable for you to just wait - stuck in neutral - for help. Look in your 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! Is there another way to approach the problem? You can do it!

**EVERY MINUTE OF CLASS TIME IS VALUABLE!** Use the time at the beginning of class to get ready for Calculus - get out your books, assignments, notebooks, pencils, 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. What better time to get help if you are stuck?

**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, or maybe you have forgot a previous year's topic. Ask questions in class. Get the help you need to succeed. I can stay after school or come in early. Just ASK!

**BECOME PROFICIENT AT NOT USING YOUR GRAPHING CALCULATOR.** Be aware that you may not use your calculator for all parts of the AP exam, and that most 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 exact solutions for many problems, and you must be able to explain your solutions using correct Calculus 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!

## **TOP 5 AP STUDY GUIDES**

1. Multiple Choice Questions to Prepare for the AP Calculus BC Exam: 2018 Calculus BC Exam  
Preparation workbook by Rita Korsunsky
2. Cracking the AP Calculus BC Exam by The Princeton Review
3. Dr. John Chung's Advancement Placement Calculus BC by Dr. John Chung
4. 5 Steps to a 5: AP Calculus BC by William Ma
5. Barron's AP Calculus by David Bock, Dennis Donovan, Shirley Hockett