

BC Calculus

www.phsmath.org

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Rationale

You should find that this course in calculus is a smooth transition from your math class last year. You will see that visualization and active thinking continue to be vital parts of your development in calculus. Gone are the days of passive learning—no more “just teach me the rules and shortcuts so I can get the answer.” You will find that in calculus *sometimes* the procedure—the road map—is more important than the answer. Calculus is a very concept oriented, rather than product oriented discipline. Recall some of the difficulties that you may have had transitioning from arithmetic to algebra and you can anticipate some of the feelings and frustrations that are to be encountered as we continue our investigations in calculus. As our study and understanding of calculus develops and expands you should realize that it is the key to a more full understanding of chemistry and physics, as well as other mathematically based disciplines, just as algebra and trigonometry were the key to these disciplines at a lower level. Many times the person who expects to pursue a career in a business related field wonders why they are so encouraged to continue their mathematical training to such a high level. The answer is quite simple. At the post secondary level, many business and economic courses are calculus based. As a matter of fact, at last estimate, a full 50% of all college majors were calculus based! Calculus has traditionally been a subject that few students have ventured into. In the eyes of many students, and teachers, calculus is a subject that is accessible only to the very brilliant. In this class we will shatter that illusion.

The subject matter of this course, and the manner in which it will be taught, will enable the successful student (you are all candidates or you would not be here) to take the College Board’s Advanced Placement (AP) BC level calculus exam. Successful completion of that test means that the student will be eligible to receive credit for having completed two semesters of calculus at most colleges and universities in the country. This course meets CCHE and NCAA requirements.

Attendance

Regular attendance is **very** important for your success in this course. After an absence it will be **your** responsibility to find out what may have been missed. If your first day of absence is a “test day,” then plan on taking the test your first day back (or as soon afterwards as the makeup test is ready). Since most tests are given almost ten lessons after the lesson they cover this should not be a hardship. Typically makeup exams will be more difficult, so it is important to make sure you’re here on test day.

Pre-arranged absence

Anytime an absence can be anticipated it should be pre-arranged through the proper channels in the office. Failure to do so may result in that absence being unexcused. In pre-arranging you will receive your assignments before leaving. This work should be completed and ready to turn in when you return or it may be considered late. **School field trips (athletics included) are pre-arranged.** This means that school field trips are not an excuse to turn in late assignments.

Tardies

You should be in the room and headed to your proper seat **when the bell rings**. A ten-minute tardy is considered an absence. The school-wide sequence of consequences for tardies will be followed. (Let's please not have to deal with these childish issues.) At the end of the period the bell is only a reminder; the teacher dismisses class.

Passes

Passes are always required to leave the classroom. Please **COME TO CLASS PREPARED** to avoid taking the pass to your lockers. No passes will be used to leave class during the first and last ten minutes of class. **ALWAYS** ask before taking the pass.

Honor and Ethics

Honesty and integrity are expected at all times. Collaboration is encouraged. However, make sure the work on your paper is always your own. A peer can talk you through a problem, but you should never copy someone else's work. This includes the solutions manual. All work (daily or tests) that is plagiarized from another source will receive no credit.

Grading Procedure

<u>SCALE</u>				<u>QUARTER GRADE</u>	
<u>1ST SEMESTER</u>		<u>2ND SEMESTER</u>		Assessments	80%
76.00 – 100	A	72.00 – 100	A	Assignments	20%
60.00 – 75.99	B	58.00 – 71.99	B	<u>SEMESTER GRADE</u>	
49.00 – 59.99	C	48.00 – 57.99	C	Quarter Grade	70%
38.00 – 48.99	D	38.00 – 47.99	D	Exam	30%
0 – 37.99	F	0 – 37.99	F		

Tests

Throughout the year tests will mimic the AP testing style. This means that each test will have two sections, and each section will have two parts. Section I of Part A will have four multiple-choice questions on which you may use a graphing calculator. Section II of Part A will have one free response question on which a graphing calculator may be used. Section I of Part B will have eight multiple-choice questions on which no calculator may be used. Section II of Part B contains one free response question on which no calculator may be used.

At a time that the student decides, the graphing calculator is put away and the second part of the test is acquired. The student may continue to work on problems contained in Part A, but once the calculator is put away and the second part of the test acquired, the student is **NOT** allowed to return to the use of the calculator.

At no time during the school year will multiple-choice questions receive partial credit. Free response questions are carefully scrutinized for method and procedures; a correct answer with no supporting work earns only about ten percent of the points available. There is a high probability that showing work and obtaining the wrong answer will score more points than having the correct answer but a lack of supporting work.

During a test your desk must be completely clear of any non-test related material (no notebooks, folders, etc. may be on your desk).

CALCULATORS MAY NOT BE SHARED DURING A TEST!

During a test the cover of your calculator must be removed from your calculator and put away. Calculators are the only electronic devices that are acceptable on tests. Improper use of cell phones and MP3 players during class will result in them being taken away. If a cell phone is used during a test, you will receive a ZERO on your test, NO QUESTIONS ASKED!

Assignments

Assignments will be made on an almost daily basis. Each assignment should be completed and ready to turn in at the beginning of the next class period so that it can be checked and questions asked in regard to it. It will then be turned in on the day indicated on the schedule. Not all assignments will be collected, but it is your responsibility to do all of the assigned work. Most regular assignments will be worth twenty-five points. Each assignment should be worked in PENCIL. You should show all of your work on a regular basis. NO WORK = NO CREDIT. Late work is not accepted (except when an excused absence is involved).

Homework quizzes will be given occasionally, which will be three chosen problems from a collected assignment that are graded for correctness. Also, we will be working on a Free Response problem weekly once we start getting into the new material.

Required Materials

1. Three-ring binder notebook—to keep yourself organized.
2. Filler paper (of course).
3. Straight edge (for graphing purposes).
4. Pencils (I will only grade tests written in pencil—may I suggest a mechanical pencil and a **good** eraser).
5. Graphing calculator: the A.P. Calculus Exams given in May will **REQUIRE** the use of a **graphing calculator**, and forbid the use of scientific calculators. However, to eliminate equity problems only calculators appearing on an approved list will be allowed. One of those calculators is also required on tests in this class.

Classroom Conduct

You are all young adults—I will expect you to behave as such. Inappropriate talking, or behavior, during the period will not be tolerated. I expect your cooperation in maintaining an appropriate teaching/learning/studying environment at all times. As this is a calculus course I expect to see only calculus homework being done.

Individual Help

Some difficulties are expected from everyone at some point during the course. When you find yourself in that position please take appropriate action. Extra help will be available on an almost daily basis after school, and certainly during Mustang 55. Other times can be arranged by appointment.

GOOD LUCK—and remember:

- Calculus was not invented in a single day—don't try to learn it in a single day (especially the day before a test).
- Don't learn the tricks of the trade at the expense of learning the trade.
- **EXCELLENCE IS FOR EVERYONE !!!**

ATTITUDE

The longer I live, the more I realize the impact of *attitude* on life.

It is more important than the past, than education, than money, than circumstances, than failures, than successes, than what other people think or say or do.

It is more important than appearance, giftedness, or skill.

The remarkable thing is—we have a *choice* every day of our lives regarding the attitude we embrace for that day.

We cannot change our past. We cannot change the fact that people will act in a certain way. We cannot change the inevitable.

The only thing we *can* do is play on the one string we have, and that is our attitude. . .

I'm convinced that life is 10% what happens to me, and 90% how I react to it. And so it is with you.

We are in charge of our attitudes.

Charles Swindoll