

CALCULUS BC / AP

COURSE EXPECTATIONS

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COURSE SCOPE:

This one-year, college-level course is intended for students who completed the first year course Calculus Honors. Students should have a strong background in pre-calculus and first semester calculus. This course includes integration of functions of a single variable, parametric, polar, and vector functions, concepts of series, series of constants and the Taylor series. Emphasis will be placed on the application of technology and theory to solve problems. A major goal of the course is to prepare students for the Calculus BC Advanced Placement (AP) exam. This course fulfills one of the mathematics credits required for graduation and receives honor credit.

COURSE GOALS:

1. To understand the meaning of the definite integral both as a limit of Riemann sums and as a net accumulation of a rate of change and should be able to use integrals to solve a variety of problems.
2. To understand the relationship between the derivative and the definite integral as expressed in both portions of the Fundamental Theorem of Calculus.
3. To communicate mathematics both orally and in well-written sentences and to be able to explain solutions to the problems.
4. To model a written description of a physical situation with a function, a differential equation, or an integral.
5. To interpret convergence and divergence of series, represent functions with series, and find the LaGrange error bound for Taylor polynomials.
6. To use technology to help solve problems, experiment, interpret results and to verify conclusions.
7. To determine the reasonableness of solutions, including sign, size, relative accuracy, and units of measurement.
8. To develop an appreciation of calculus as a coherent body of knowledge and as a human accomplishment.
9. To increase mathematical abilities and encourage participation in mathematics-related fields.
10. To take the BC-level AP exam in Calculus.

COURSE OVERVIEW

Content	Approximate Time in Weeks
1. The Definite Integral	5
2. Differential Equations and Mathematical Modeling	5
3. Applications of Definite Integrals	5
4. L'Hopital's Rule, Improper Integrals, Partial Fractions	4
5. Parametric, Vector, and Polar Functions	5.5
6. Infinite Series	5.5
7. Review: Preparing for the AP Exam	4

TEXT:

Calculus with Analytical Geometry by Larson, Hostetler, and Edwards

REQUIRED MATERIALS:

Everyday you will be required to bring to class your assigned textbook, your notebook for Calculus, your assignments, your Cougar planner, your calculator (TI-89), and a writing utensil (preferable a pencil).

CLASSROOM POLICY:

It is your responsibility to keep and understand the information contained in this policy. It should be read carefully by you and retained for future reference. If you have any questions, be sure to have them clarified by myself immediately. The classroom rules listed are there so that the classroom will be a pleasant place to learn mathematics.

1. Students are to be in class on time. Students are expected to be in the classroom before the bell stops ringing. If late from another class or the office, bring an appropriate pass.
 1. First tardy – warning
 2. Second tardy – 15 huxlies or 20 minutes detention
 3. Third tardy – a tardy letter is sent home
 4. Fourth tardy – a phone call is made to your parents or guardians
 5. Fifth tardy – a student tardy referral
 6. Sixth or more tardy – the student is referred to the deans' office
2. Students are to be prepared for class each day.
3. Tests and quizzes should be done in pencil to be more efficient. Neatness and correct spelling are expected and appreciated.
4. No talking or disruption during the instructor's lectures. Raise your hand to ask or answer questions.
5. No talking during a quiz or test. Talking will be interpreted as cheating in this situation, and the student risks a zero on the paper.
6. No food or drink in the classroom. The exception is water (not flavored) in a water (not sport) bottle. If you bring in candy, food, or other types of drinks, you will be required to throw it away.
7. Seats will be assigned and the students are to remain seated in their assigned seats, unless otherwise directed.
8. All rules of Coronado High School apply in this classroom, including the dress code. All phones should be turned off and put away. Walkmans, Ipods, etc. should be turned off and put away, including the headphones.
9. It is the responsibility of the student to talk to the teacher concerning make-up work or make-up tests. Make-up tests will be arranged at the teacher's discretion. Concerning homework, for a day absent, the student will be given up to three days to make up the work.
10. Assignments are given almost every day, including on some Fridays. If time in class is given to work on your math assignment, the students are to use it for that math assignment, not that from another class. **EXTRA HELP WILL BE AVAILABLE BEFORE AND AFTER SCHOOL.**

11. Students are allowed two hall passes per nine weeks, and then hall passes are given at the teacher's discretion. Learning takes place in the classroom, not in the halls. If there is a medical reason, bring a note from a parent or guardian.
12. When the class bell starts class time, be prepared to start. Have your assignments ready to check, your book open, your notes out and opened to the appropriate place, etc. Make use of all class time – don't close shop too early. Get your work done in class if possible, even if it means working up to the bell.
13. No use of obscene or improper language.
14. It is expected that all students in this class will be polite and courteous. You should treat all others with respect and fairness. This also applies to property that belongs to the school or to others.

GRADING:

Grading is done on the point system. Excessive absences make it difficult to attain points. If the absence count exceeds ten unexcused for the semester, it will be a signal that the student will lose credit for that class that semester. Chapter tests account for 50% of the quarter grade, quizzes account for 25% of the quarter grade, and homework accounts for 25% of the quarter grade. Letter grades are based on the following scale:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Under 60%	F

Semester grades will be determined on 40% for each quarter's points and 20% for the semester exam.