Course Policy: AP Calculus AB
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Congratulations!

You are part of an elite group of students who have stepped up to take the Calculus challenge. I promise you that next year in May, when you look back on the academic year, you will be amazed at how much you will have learned and how far you will have come. This course is equivalent to a first semester college Calculus course. The course will prepare you to attempt to earn that college credit by taking the College Board AP Calculus AB exam as well as to prepare you for entry into a next level college Calculus II class.

Course Description
Calculus deals with calculating and exploring things that change at variable rates. The major concepts of Calculus include limits, derivatives, and integrals. The curriculum is set by The College Board and can be accessed at https://apcentral.collegeboard.org

Topics to be covered:

1. Limits & Continuity
2. Differentiation: Definition and Fundamental Properties
3. Differentiation: Composite, Implicit, and Inverse Functions
4. Contextual Applications of Differentiation
5. Analytical Applications of Differentiation
6. Integration and the Accumulation of Change
7. Applications of Integration

Purpose
The primary purpose of this course is to prepare students for success on the AP Calculus AB Exam. Depending on their AP score, students may then choose either to bypass Calculus I in college or to use their knowledge from this course to help them succeed in Calculus I in college. The secondary purpose of this course is to prepare students for college-level work in mathematics. Students are expected to apply what is learned in class to novel problem situations and to develop independence in analyzing problems and synthesizing information.

Supplies
Three-ring binder, notebook paper, pen/pencil, and graphing calculator (see below)

Calculator Usage
A College Board approved graphing calculator is required for the course and will be used regularly as a tool for discovery and for confirmation of analytic work.
**The Role of Technology in AP Calculus: Technology is designed to make our lives as mathematicians easier; yet, technology is not a substitute for mathematical understanding and proficiency. Students are expected, both by the instructor and by College Board, to understand the underlying mathematical concepts associated with the use of technology. Calculator and non-calculator portions on the AP exam emphasize this requirement; as a result, tests in this course will frequently be divided in the same fashion.*

Term Grading.
Unit Tests/Major Projects 66%
Homework/Quizzes/Classwork 34%

Note: Although tests count considerably more than homework in the overall course grade, homework is the most important component of this course.* ***If a student does not complete the assigned homework, she/he will not succeed in this course.* *Homework will be graded and needs to be complete - showing ALL necessary steps.* ***Late assignments will not be accepted.*** *Homework assignments are designed to be challenging. (Often, we can learn more from incorrect solutions than we can from correct ones).*

Make-up Work
All assignments are posted on the class syllabus (also available on my website and Canvas). Check with me for any work that was given the day you were absent; THIS IS YOUR RESPONSIBILITY! If you have questions, come ask for help before school. Work may be only made up for excused absences.

Homework
You WILL have homework! I will not spend a lot of class time going over homework problems, so if you are having a particularly hard time with a section, get help before the next class. Homework will be checked the block after it is assigned (for completion). If you fail to complete the homework assignment(s) within the time allotted, you will receive a 0 for the assignment(s). There will be no alternate assignments to replace those 0's. I want to prepare you for college and the real world where deadlines are important!

Extra help
I am available for extra help most mornings (email me the night before to check availability).

About the AP Exam
Taken from the College Board's AP Calculus Course Description:
Section I: Multiple Choice
45 questions in 105 minutes
*Part A (30 questions in 60 minutes) does not allow the use of a calculator.
*Part B (15 questions in 45 minutes) graphing calculator required.
Multiple-choice scores are based on the number of questions answered correctly. Points are not deducted for incorrect answers, and no points are awarded for unanswered questions. Because points are not deducted for incorrect answers, students are encouraged to answer all multiple-choice questions. On any questions students do not know the answer to, students should eliminate as many choices as they can, and then select the best answer among the remaining choices.

Section II: Free-Response
6 problems in 90 minutes
*Part A (2 problems in 30 minutes) graphing calculator required.
*Part B (4 problems in 60 minutes) does not allow the use of a calculator.
During the second timed portion of the free response section (Part B), students are permitted to continue work on problems in Part A, but they are not permitted to use a calculator during this time.

In determining the score for each exam, the scores for Section I and Section II are given equal weight.
Since the exams are designed for full coverage of the subject matter, it is not expected that all students will be able to answer all the questions.