

AP Calculus AB Course Outline

This class covers the first semester of college level calculus that is designed to cover one year for a qualified high school student. The topics covered are limits, derivatives, definite integrals and indefinite integrals. Students are expected to use high level thinking skills and perform academically at a college level. Students are required to take the AP Calculus exam at the end of the year.

Objectives:

As the result of taking AP Calculus AB the student should be able to:

1. Grow in your ability to think logically and to reason from the data.
2. Increase your problem-solving skills.
3. Be able to approach a problem numerically, algebraically, graphically, and verbally.
4. Develop speed and accuracy in Calculus skills.
5. Have the necessary skills to pass the Advanced Placement Exam.
6. Have the equivalent competency of a 1st semester college-level Calculus student.

Course Outline

1st Quarter

1. Limits, Derivatives, Integrals, and Integrals
2. Properties of Limits
3. Derivatives, Antiderivatives, and Indefinite Integrals

2nd Quarter

1. Products, Quotients
2. Definite and Indefinite Integrals
3. The Calculus of Exponential and Logarithmic Functions

3rd Quarter

1. The Calculus of Growth and Decay
2. The Calculus of Plane and Solid Figures
3. Algebraic Calculus Techniques for the Elementary Functions
4. The Calculus of Motion – Averages, Extremes

4th Quarter

1. Review for AP Exam
2. Final Exam
3. Various Topics

TEXT

Calculus: Concepts and Applications
Paul A. Foerster; Key Curriculum Press, 2005

CLASS REQUIREMENTS FOR CALCULUS

HOMEWORK

1. Homework will be assigned nightly (except holidays, meaning Thanksgiving, Christmas, etc.)
2. Homework will be gone over the following day in class if time permits. All homework is done in pencil. (Typically I am not able to go over all homework problems requested.)
3. Homework will be picked up every Friday with all the homework for the week due at that time.
4. Homework will be graded on how much of the work was attempted and completed. It will not be graded on correctness.
5. Students are responsible to make up all homework missed during an absence. Two days will be given to make up work for every excused day missed.
6. It is crucial that students do their homework nightly since a new topic will be covered each day. It is imperative they understand the previous material in order to understand the current material.

TESTS AND QUIZZES

1. Quizzes will be given at least once a week. Tests will be given at the end of a chapter. A quarter exam and semester exam will also be given at the end of every marking period.
2. There will be no make ups for quizzes or tests missed due to an absence. Instead for any quiz missed the next chapter test grade will go in for the missed quiz, and the quarter or semester exam will go in for any missed test. A test or quiz can be taken in advance if a student knows that they are going to be absent.
3. Occasional worksheets will be assigned to groups of students to be done outside of class. One student's work in the group will represent the work of the entire group. All group members' work will be collected and graded against the one student's work.
4. Cheating, helping someone cheat, or unexcused absences will result in a 0 on a test or quiz given that day along with demerits being assigned.
5. Notes will be collected at the end of each quarter and graded for neatness, content, and accuracy.

GRADE BREAKDOWN IN %

Tests – 40%

Quizzes - 20%

Homework – 30%

Notes & Class Participation – 10%

WHEN YOU CAN GET HELP

1. I will be available at lunch, 7th period (which is my prep), and after school. To make sure that I am available and will be in my classroom, let me know ahead of time so I can be sure to be there or let you know if there are any conflicts.

2. Be sure to come in and see me as needed. I am very willing to help you in any way I can. Please do not come in at the end of the quarter for help, expecting me to teach you the whole course during lunch. Do your homework and come in and see me when necessary.