

Analysis / AP Calculus 2009-2010

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Jefferson High School Mission Statement: All Students will graduate as fully functioning adults.

Your mathematics education will be an important part of fulfilling this goal as you:

- Learn to communicate mathematically
- Learn to use mathematics in his/her daily life
- Become proficient with the appropriate computational tools and techniques
- Learn to reason mathematically
- Become a mathematical problem solver

Student responsibility is an important component of learning at high levels and preparing for a successful life. A successful mathematics student is responsible for:

- completion of all course requirements in a timely manner,
- seeking help outside of regular class time, when necessary,
- making up missed work in a timely manner, and
- academic honesty.

Text: Calculus: Graphical, Numerical, Algebraic, Third Edition; Prentice Hall

Supplies:

LARGE three ring binder
Plenty of paper: lined and graph
Dividers
Graphing Calculator (type approved for AP exam)
Barron's Guide to AP Calculus

Grade Distribution:

Semester Work: 85%

- Tests: 70%
- Daily: 30%

Final Exam: 15%

Jefferson High School Grading Scale:

A 90 – 100
B 80 – 89
C 73 – 79
D 70 – 72
F Below 70

Course Overview:

Chapter 2 *Limits and Continuity*
Chapter 3 *Derivatives*
Chapter 4 *Applications of Derivatives*
Chapter 5 *The Definite Integral*
Chapter 6 *Differential Equations and Mathematical Modeling*
Chapter 7 *Applications of Definite Integrals*
Chapter 8 *L'Hopital's Rule, Improper Integrals, and partial fractions*
Chapter 9 *Infinite Series*
Chapter 10 *Parametric, Vector, and Polar Functions*

Your classroom experiences have been designed to revolve around those requirements. You will get out of the class exactly as much as you put into it.

Supplemental Help:

The teacher is available extra help most days before school from 7:00 am -7:45 am. Please check with the teacher for an appointment AS SOON AS you determine that you are having difficulties. The teacher is also available after school. Please check for availability as this varies from week to week.

Make up Policy:

All tests are announced at least two (2) days in advance. Every effort should be made to attend class on assessment days. All tests must be made up within five school days as per school policy. Missing grades for missed quizzes will be replaced with the grade from the next test.. Failure to make up the test within five days will result in a grade of zero (0) for the test and/or quiz.

Academic Honesty:

Cheating of any kind on any assignment may result in a grade of zero for that assignment, parental notification, and administrative referral. Cheating includes any attempt to defraud, deceive, or mislead the instructor in arriving at an honest grade assessment. Plagiarism is a form of cheating that involves presenting as one's own the ideas or work of another. Any breach of academic honesty may result in a zero for the assignment, discipline referral, and a request for a parent conference. Unless specifically authorized by the instructor, the following are examples of cheating. This is not an exhaustive list.

A. On a test or quiz:

1. Looking at or copying from another student's work.
2. Allowing another student to look at or copy your work.
3. Having a copy of the test before actually taking the test.
4. Discussing specific test items with students from a previous class period.
5. Sharing a calculator.
6. Communicating with anyone except the student's instructor.
7. Accessing unauthorized material, including student notes, printed material, or material accessed electronically.

B. On homework or other out-of-class assignments:

1. Copying work or answers from another student.
2. Having another person do the work for you.
3. Allowing another student to use your work as his or her own.
4. Presenting the work of another as your own (plagiarism).

Student Responsibilities:

All students are responsible for bringing their textbook, pencil, notebook, and calculator to class each day. All students deserve an opportunity to learn in an attentive educational environment. Disruptive behavior cannot be tolerated. Each student should respect the right of others to express a differing opinion.

Tardiness:

Students are allowed six (6) minutes between each class. Please be seated and ready to begin work when the bell rings. A student is considered tardy when s/he is not inside the classroom when the last tone sounds. There are no "free" tardies. All tardies will result in a referral for disciplinary action by the school administration.

- ❖ 2010 AP Exam date: Wednesday, May 5, 2010, morning session
- ❖ All students are expected to take the AP exam. Any student remaining in class on AP exam day will take an in-class AP style test on the day of the AP exam.

*** The instructor reserves the right to make changes to the syllabus as deemed necessary.

LEARNING CALCULUS

Supplies:

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Plenty of paper: lined and graph

Dividers

Graphing Calculator (type approved for AP exam)

Barron's Guide to AP Calculus

Welcome to the wonderful world of Calculus, the Queen of Mathematics. During the coming year you will finally get the answer to the question, "When am I ever going to use this?" You have been preparing your whole educational career for this adventure. It is truly an exciting time in your mathematical life.

There are a few things that you need to understand in order to be successful in this journey you are about to undertake. First of all, you are enrolled in Advanced Placement Calculus. This course is specifically designed to prepare you for the AP exam given in May 2008. You are not enrolling for a preview of college mathematics. You are taking this course so that you can be successful on the exam that will in turn allow you to exempt Calculus, or possibly other math courses, in your chosen institution of higher learning. This will then save you countless hours of needless study, not to mention money.

This leads us logically to the next phase of your commitment to this class. Calculus is likely to require that you make a substantial investment of TIME. The general "college" rule is to spend a minimum of two hours outside of class for every hour you spend in class. The College Board recommends five hours a week of additional study time outside of class. Build this into your life. You should work on calculus in some way everyday, whether you have a new homework assignment or not.

One of the best ways to learn anything is to explain it to someone else. Working in a group is a good way to provide you with this opportunity. You will amaze your friends with careful explanations of all the different interpretations of the concepts of calculus. While working in groups can be an enormous help, there are times you will want to seek help from me during non-class times. Do so quickly and early on in the course.

Math is not a spectator sport. You will need to actively participate, roll up your sleeves, and get that pencil moving. You will also need to move your brain. Expect to have to think about concepts and problems. Some of the problems you will encounter will teach you new techniques: like playing scales on a musical instrument, or running laps around a track. You might not see the point immediately, but they are strengthening you so that everything will come together when it counts. Think of them as push-ups for the brain and practice them often. Some problems will require you to pull the concepts together and you will be glad you did the push-ups.

Your presence is imperative! There is a definite correlation between class grade and attendance. Save your absences for real sicknesses and real emergencies. Making a habit of getting up and coming to school is a life-lesson that will help you succeed in college as well as your chosen profession. Commit yourself to perfect attendance.

The only way to learn Calculus is to do calculus! At a minimum work every problem assigned. If you are having trouble or want more practice, work other problems in the section. Work problems more than once. Think about why you are taking the steps instead of simply repeating the problem in a robot fashion. The fastest way to get into trouble in Calculus is not to do homework. It is easier to keep up than to catch up. Similar problems will show up on quizzes and tests. You must be able to work them quickly and accurately. You will also get more out of homework with the television and stereo off.

