

Instructor: Mr. Rafe Paulson

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## Topics Covered

1. Limits: Students must have a solid, intuitive understanding of limits and be able to compute one-sided limits, limits at infinity, the limit of the sequence, and infinite limits. They should be able apply limits to understand the behavior of a function near a point and understand how limits are used to determine continuity.
2. Derivatives: Students should be able to use different definitions of the derivative, estimate derivatives from tables and graphs, and apply various derivative rules and properties. Students should also be able to solve separable differential equations, understand and be able to apply the Mean Value Theorem, and be familiar with a variety of real-world applications, including related rates, optimization, and growth and decay models.
3. Integrals and the Fundamental Theorem of Calculus: Students should be familiar with basic techniques of integration, including basic antiderivatives and substitution, and properties of integrals. Students should also understand area, volume, and motion applications of integrals, as well as the use of the definite integral as an accumulation function. It is critical that students understand the relationship between integration and differentiation as expressed in the Fundamental Theorem of Calculus.

## Textbook (will be provided by the school)

Calculus (AP Edition) Graphical, Numerical, Algebraic Third Edition

by Finney, Demana, Waits, and Kennedy (copyright 2009) published by Pearson

## Attendance Policy

Experience shows that students who do not attend class regularly do not do well in math/science classes. Attendance is expected everyday (excluding excused absences and extracurricular activities; such as sports, FFA, FBLA, etc.), but will not be directly included in the calculation of your final grade.

### **Homework**

Homework will be assigned nearly everyday, and will be assigned and completed using the textbook provided. The student will have TWO DAYS (including the day it was assigned) to complete the assignment. (For example: if an assignment is assigned on Monday, then it will be due Wednesday at the beginning of class.) Also, every week a small set of supplementary problems will be handed out. The solutions to these problems must be written out and turned-in for grading. Supplementary problems will typically be assigned every Wednesday and due the following Wednesday at the beginning of class. These problems, in general, will be more complex than the homework problems, and will give the student practice synthesizing and applying the concepts learned in class. They will also give me a chance to provide the student with feedback on his/her problem-solving skills before being tested on the material. Late work will be handled as follows....

- 1st day late = a 10% deduction of overall assignment grade
- 2nd day late = an additional 10% deduction of overall assignment grade
- 3rd day late = a grade of 0% will be given for the assignment

### **Tests and Final Exams**

There will be a total of EIGHT tests and two finals, throughout the school year. A final exam will be given at the end of each SEMESTER, and will be cumulative only with the respective semester. The best study aides in preparing for the final are the student's homework, notes, and tests. Students may choose to take the AP exam in May in place of their spring final exam.

### **Grading**

Coursework grades will be used to calculate a final numerical score for the course. Each component will be weighted as follows:

Homework	40%
Supplementary problems	30%
Tests	30%

Letter grades will not be assigned until the end of the quarter. If the student needs to estimate the course grade at any time, use the following scale:

100.0% - 97.0%	A+
96.9% - 93.0%	A

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92.9% - 90.0%	A-
89.9% - 87.0%	B+
86.9% - 83.0%	B
82.9% - 80.0%	B-
79.9% - 77.0%	C+
76.9% - 73.0%	C
72.9% - 70.0%	C-
69.9% - 67.0%	D+
66.9% - 60.0%	D
59.9% - 0%	F

### **Cheating**

Cheating of any sort will not be tolerated. If the student is caught intentionally cheating, the student will receive as a MINIMUM penalty of zero for that work. Repeated instances of cheating will result in an F for the course and may be subject to additional discipline (suspension or expulsion).

### **Special Consideration**

If the student requires course adaptations or accommodations because of documented disability, if the student have emergency medical information to share with me, or if the student needs particular arrangements in case the building must be evacuated, please meet with me and inform me of the particular situation as soon as possible.

and finally...

As the instructor of the class I reserve the right to change, edit, and revise the syllabus and the course content as needed.

I expect a lot from my students, and in return I give all the help I can. PLEASE come talk to me if/when you need help. Helping you succeed in the classroom is my job, and it's a job I love to do.