Calculus Syllabus

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Welcome to Calculus! I look forward to getting to know each of you and pursuing truth and beauty in mathematics with you, specifically in Calculus. We aspire to find joy in learning as we explore the beauty of math as it appears in the world around us.

Course Description:

AP Calculus AB is a course in single-variable calculus that includes techniques and applications of the derivative, techniques and applications of the definite integral, and the Fundamental Theorem of Calculus. It is equivalent to at least a semester of calculus at most colleges and universities (and perhaps a year of calculus at some). Algebraic, numerical, and graphical representations are emphasized throughout the course. At the end of the course all students will be required to take the AP Calculus AB exam for possible college credit.

Furthermore, we will:
- Instill the ability to use mathematical models for real world applications
- Provide a solid foundation for passing the AP examination
- Develop the use of the graphing calculator as a technological aid
- Promote the use of multiple representations to approach quantitative mathematical problems: algebraic, numerical, and/or graphical

Class Expectations:

- Love, respect, and protect one another.
- We will discuss and develop the specific application of ideals at the beginning of the year.
- Students can expect to have homework every day.
- Each day, students will check their homework and learn new Calculus content. Homework provides students with time for independent practice outside of class.

Course Outline:

In this course we cover the following Calculus topics:
- Domain, Range, Continuity, Extrema, Symmetry, Asymptotes, & End Behavior of Functions
- Slope of a curve
- Derivatives and their applications
- Integrals
- Area under a curve
- Volumes of solids of revolution
- Limits
- Slope fields

Textbook:

Demana, Franklin D, et al. *Calculus: Graphical, Numerical, Algebraic*. Pearson Education, Inc., 2020.

Supplies:

- TI-83 or TI-84 graphing calculator. If you wish to use a calculator other than a TI-83 or TI-84, please check the AP website for compatibility with the AP test.
- 1 pack of 100 3x5 index cards
- Dry erase markers (to use every day)
- Paper (lined and graph)
- A way to take notes (suggestions: 3-ring binder or composition notebook)
- 1 box of tissues

Grading

Graded assignments will consist of homework assignments, quick quizzes, and tests.

A 93 – 100	B 83 – 86	C 73 – 76	D 63 – 66
A- 90 – 92	B- 80 – 82	C- 70 – 72	D- 60 – 62
B+ 87 – 89	C+ 77 – 79	D+ 67 – 69	F 0 – 59

Homework Policies:

- Expect homework to be assigned every day which will be due at the beginning of class
- For **full credit**, homework must be on time, with all work shown, formatted correctly, and neatly completed.
- Late policy:
  o Write *Absent* or *Late* on the top of the assignment as appropriate.
  o Maximum of 50% credit for late work (unless late for excused absence).
  o No late work will be accepted for an assignment after its respective test.

Test Policies:

- You are expected to take each test on the day it is scheduled; if you have extenuating circumstances, please advocate for grace.
- Please use tests as an opportunity to prepare for the AP Exam you will take next spring, assessing your understanding of the concepts earlier in the year so that you can appropriately address your cognition.