

## **COURSE DESCRIPTION**

Welcome to AP Calculus AB. The goal of this course is to prepare the student for the Advance Placement Exam held sometime in May. We will focus on three major topics throughout the year: Limits, Differentiation and Integration. In order to cover all necessary material by the time the AP exam is held in May the course will move at a rapid pace. Expect to be challenged with a rigorous schedule of homework, class work, projects and exams. Organization and consistency is the key to success in this class.

Please note: Even though students will be taking the advanced placement exam in May *there will be a final exam in the second semester.*

## **ESSENTIAL KNOWLEDGE**

Upon successful completion of this class, students will be able to:

- Understand concepts of limits and continuity
- Calculate basic derivatives
- Use product rule, quotient rule, chain rule
- Use implicit differentiation
- Solve problems using related rates.
- Find all extrema of a function
- Identify concavity on a function
- Find an anti-derivative of a function
- Find the area of a bounded region
- Calculate derivatives of logarithmic and exponential functions
- Calculate integrals of logarithmic and exponential functions
- Calculate volumes of revolution

## **TEXT**

*Calculus of a Single Variable*, Larson Hostetler Edwards

## **MATERIALS NEEDED DAILY**

- Pencil and eraser
- Notebook (journal)
- Textbook
- Graphing calculator (preferably TI-84 plus)

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