

## AP Calculus AB and AP Calculus BC

**Fall Semester** AP Calculus AB provides students with an intuitive understanding of the concepts of calculus and experience with its methods and applications. It introduces the following topics: elementary functions; properties of functions and their graphs; limits and continuity; differential calculus (including definition of the derivative, derivative formulas, theorems about derivatives, geometric applications, optimization problems, and rate-of-change problems); and integral calculus (including anti-derivatives and the definite integral). This course is intended to prepare students for the optional Advanced Placement Exam. A graphing Calculator is required. **Prerequisite: Trig or Pre-Calculus** \*\*\*\*This course is only offered in the Fall Semester \*\*\*\*

**Spring Semester** AP Calculus BC course provides students with an intuitive understanding of the concepts of calculus and experience with its methods and applications, and also requires additional knowledge of the theoretical tools of calculus. This course assumes a thorough knowledge of elementary functions and covers all of the calculus topics in AP Calculus AB as well as the following topics: vector functions, parametric equations, and polar coordinates; rigorous definitions of finite and nonexistent limits; derivatives of vector functions and parametrically defined functions; advanced techniques of integration and advanced applications of the definite integral; and sequences and series. This course is intended to prepare students for the optional Advanced Placement Exam. A graphing Calculator is required. **Prerequisite: Calculus AB** \*\*\*This course is only a Spring Semester. \*\*\*

Fall Semester Course ID# = APCALAB-AP-S

Spring Semester Course ID# = APCALBC-AP-S

Please add both course ID#'s to your course requests in Synergy.

**(Taking both courses will meet 2 of 4 needed Math Graduation Credit Requirements)**