Course Description: AP Calculus AB

This course develops students' understanding of the concepts of calculus and provides experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. This course is designed for students intending to major in business, economics, or natural and social sciences. This course moves at a faster pace than standard Calculus AB, allowing for ample review time prior to the AP exam in May.

Topics include:
1. Linear, polynomial, exponential, logarithmic, and trigonometric functions
2. Limits and continuity
3. Differentiation - curve sketching, related rates, and optimization
4. Integration - area under a curve, area between curves, integration by parts, and the Fundamental Theorem of Calculus
5. Differential equations
6. Creating mathematical models for data using regression
7. Applications to business and economics such as compound interest, marginal analysis, and elasticity of demand
8. Applications to natural, life, and social sciences such as population growth and half-life

Textbook: Calculus, 8th Edition. Larson et al. 2006.
Prerequisite: Precalculus or Math Analysis

High Bluff Academy is accredited by the Western Association of Schools and Colleges (WASC). The above course is approved by the University of California system (A-G) and the National Collegiate Athletic Association (NCAA).