Cocalico School District
Year-at-a-Glance – Curriculum Overview

Department: Math **Course: AP Calculus BC (146)** **Grade Level: 11-12**

Big Ideas

- To find the antiderivative of a function using advanced integration techniques
- To determine the convergence of a series
- To find the Taylor polynomial approximation of elementary functions
- To graph and apply Calculus concepts of parametric functions
- To graph and apply Calculus concepts of polar coordinates

Units of Study	% of Course Time	Textbooks & Supplemental Materials	Assessments	Standards Addressed
• Advanced Integration Techniques	20%	• *Calculus of a Single Variable* Textbook • Past AP Exam Free Response Questions	• Unit Exam • Homework • Teacher Observation	• Extension Beyond Standards
• Tests to Determine the Convergence of a Series	20%	• *Calculus of a Single Variable* Textbook • Past AP Exam Free Response Questions	• Unit Exam • Homework • Teacher Observation	• Extension Beyond Standards
• Represent Elementary Functions as a Taylor Polynomial	30%	• *Calculus of a Single Variable* Textbook • Past AP Exam Free Response Questions	• Unit Exam • Homework • Teacher Observation	• Extension Beyond Standards
• Parametric Equations and Calculus	15%	• *Calculus of a Single Variable* Textbook • Past AP Exam Free Response Questions	• Unit Exam • Homework • Teacher Observation	• Extension Beyond Standards
• Polar Coordinates and Calculus	15%	• *Calculus of a Single Variable* Textbook • Past AP Exam Free Response Questions	• Unit Exam • Homework • Teacher Observation	• Extension Beyond Standards

Extension Beyond Standards means that the course goes beyond the given state standards.

Eagle P.A.C.T. Course Connections:

In Advanced Placement Calculus BC, students will use problem solving skills to study topics that include the theory and applications of limits, derivatives, integrals, sequences and series, polar and parametric equations. All topics required for the BC Advanced Placement Calculus exam are included. Students must have access to and know how to use a graphing calculator. This course will require students to learn independently, using the instructor as a resource for difficult to understand topics. Students will have opportunities to work together to collaborate and communicate their thinking about calculus.