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

Department: Math   **Course:** AP Computer Science A (147)   **Grade Level:** 10-12

Big Ideas
- Learn the fundamentals of Computer Science by:
  - Understanding and applying the main principles of object-oriented software design and programming.
  - Understanding the concept of an algorithm.
  - Discussing ethical and social issues related to the use of computers.

Units of Study	% of Course Time	Textbooks & Supplemental Materials	Assessments	AP Computer Science Standards Addressed
• Introduction to Computers and Software Engineering	10%	• *Java Methods: Object-Oriented Programming and Data Structures* • College Board Online Resources	• Unit Test • Programming Labs	15.4.12.L
• Syntax and Objects	15%	• *Java Methods: Object-Oriented Programming and Data Structures* • Codingbat.com • College Board Online Resources	• Unit Test • Programming Labs	3.4.12.C2 3.4.12.C3 15.4.12.H 15.4.12.L
• Arithmetic, Logic, and Control Statements	25%	• *Java Methods: Object-Oriented Programming and Data Structures* • Codingbat.com • College Board Online Resources	• Unit Test • Programming Labs	3.4.10.A2 15.4.12.H
• Strings and Arrays	15%	• *Java Methods: Object-Oriented Programming and Data Structures* • Codingbat.com • College Board Online Resources	• Unit Test • Programming Labs	15.4.12.H 15.4.12.J 15.4.12.L
• Classes and Class Hierarchies	20%	• *Java Methods: Object-Oriented Programming and Data Structures* • College Board Online Resources	• Unit Test • Programming Labs	3.4.10.C1 15.4.12.H 15.4.12.J
• Recursion, Searching and Sorting	15%	• *Java Methods: Object-Oriented Programming and Data Structures* • Codingbat.com • College Board Online Resources	• Unit Test • Programming Labs	15.4.12.H 15.4.12.J

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

Students must use upper-level abstract thinking to write programs in Java that will solve given problems. Students will use various programming techniques in an integrated development environment to create their own programs.