Computer Science Courses

Introduction to Computer Science:

A high level introduction into computer science theory, binary numbers, problem solving, Scratch, App Inventor, the internet, web pages, history, and introducing real programming languages of Python and Java. The point of this course is to be highly engaging and to inspire continuation in computer science classes. Major emphasis placed on logical reasoning, programming techniques and problem solving skills.

Computer Programming:

This course will be an introduction to programming in the language of Java. Students will learn the fundamentals of programming through the use of conditional statements, iterations, objects, graphics, and writing simple to complex programs. A major emphasis of the class will be to improve students' problem solving and logical reasoning skills.

Unit 1: Background on Software Development
Unit 2: Fundamentals of Python
Unit 3: Conditionals and Decision Structures
Unit 4: Iterations
Unit 5: Objects and Graphics
Unit 6: Files and the Final Project

AP Computer Science A (Java):

This year long course is comparable to the first course in the introductory sequence for computer science majors in college. An AP Computer Science A course is intended to serve both as an introductory course for computer science majors and as a course for people who will major in other disciplines that require significant involvement with technology. Java is a platform independent language and the programs students write will compile successfully on Macintosh or Windows operating systems. AP Computer Science A provides students with the logical, mathematical, and problem-solving skills needed to design structured, well-documented computer programs that provide solutions to real-world problems. These courses cover such topics as programming methodology, features, and procedures; algorithms; data structures; computer systems; and programmer responsibilities.

AP Computer Science Principles

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.