Troy High School
Course Profile

Course Title: AP - COMPUTER SCIENCE A (Year 11 -12)

Course Prerequisite: Refer To Registration Presentation

Description:

The AP- Computer Science A course is a college-level introductory course in computer science. A large part of this course is built around the development of computer programs or parts of programs that correctly solve a given problem and that are understandable, adaptable, and where appropriate reusable. Other important aspects of computer science including the development and analysis of algorithms, the development and use of fundamental data structures, and the study of standard algorithms and typical applications are covered. In addition, an understanding of the basic hardware and software components of computer systems and the responsible use of these systems are integral parts of the course. Students are prepared for the Advanced Placement Computer Science A Examination and will also be prepared to take Cambridge Advanced Computer Science A Level or International Baccalaureate Computer Science High Level 2 .

Prior Skills Needed:

The assumed prerequisites for entering the AP Computer Science A course include knowledge of basic English and algebra. A student in the AP Computer Science A course should be comfortable with functions and the concepts fo und in the uses of function notation, such as $f(x) = x + 2$ and $f(x) = g(h(x))$. It is important that students and their advisers understand that any significant computer science course builds upon a foundation of mathematical reasoning that should be acquired before attempting such a course. In addition, students should be familiar with at least one high level programming language, and have experience in problem solving and algorithmic development. Students should have good self- discipline, as much of the work required for this course is assigned in advance and will require the student to work diligently on their own to complete the assignments in a timely manner.

Workload Expected:

The workload expected varies by student. Much of the work can be completed during class time, however there are frequent nightly homework assignments that should not require more than 20 - 30 minutes to complete. In some cases, students may need to spend additional time outside of class to complete the programming assignments.