Canyon Crest Academy: AP Computer Science Principles

Level of Difficulty	Estimated Homework	Prerequisites
☐ Moderate ☒ Difficult ☐ Very Difficult	0-30 minutes	**District** None **Department** Grade 10-12; Exploring Computer Science or Integrated Math I

Course Description

AP Computer Science Principles introduces you to the foundations of computer science with a focus on how computing powers the world. Along with the fundamentals of computing, you will learn to analyze data create technology that has a practical impact; and gain a broader understanding of how computer science impacts people and society.

The major areas of study in the AP Computer Science Principles course are organized around seven big ideas, which are essential to studying computer science.

Big Idea 1: Creativity
Computing is a creative activity. In this course, you will use the tools and techniques of computer science to create interesting and relevant digital artifacts (e.g., a video, animation, infographic, audio recording or program) with characteristics that are enhanced by computation.

Big Idea 2: Abstraction
In computer science, abstraction is a central problem-solving technique. In this course, you will use abstraction to model the world and communicate with people as well as with machines.

Big Idea 3: Data and Information
Data and information facilitate the creation of knowledge. Managing and interpreting an overwhelming amount of raw data is part of the foundation of our information society and technology. In this course, you will work with data using a variety of computational tools and techniques to better understand the many ways in which data is transformed into information and knowledge
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Big Idea 4: Algorithms
Algorithms are used to develop and express solutions to computational problems. They are fundamental to even the most basic everyday task. In this course, you will work with algorithms in many ways: You will develop and express original algorithms, implement algorithms in a language, and analyze algorithms analytically and empirically.

Big Idea 5: Programming
Programming enables problem solving, human expression, and creation of knowledge. It results in the creation of software, and it facilitates the creation of computational artifacts, including music, images, and visualizations. In this course, you will be introduced to the fundamental concepts of programming that can be applied across a variety of projects and languages. You will create programs, translating human intention into computational artifacts.

Big Idea 6: The Internet
The Internet and systems built on it have a profound impact on society. It pervades modern computing. In this course, you will gain insight into how the Internet operates, study characteristics of the Internet and systems built on it, and analyze important concerns such as cybersecurity.

Big Idea 7: Global Impact
Computation has changed the way people think, work, live, and play. In this course, you will become familiar with many ways in which computing enables innovation. You will analyze the potential benefits and harmful effects of computing in a number of contexts.

Grading
For the through-course assessment, you will upload digital artifacts and written responses via a Web-based digital application. You will be asked to describe or analyze your work, whether it includes research, the creation of an artifact (e.g., a video, spreadsheet, graph, or electronic slide show), or the creation of a program..

The end-of-course AP Exam will be a paper and pencil written exam. It will be 120 minutes long and will include approximately 74 multiple-choice questions. There are two types of multiple-choice questions:
•   Single Select Multiple-Choice: you select 1 answer from among 4 options
•   Multiple Select Multiple-Choice: you select 2 answers from among 4 options

Syllabus Link
Contact Teacher

Supplemental Information
10 credits
Meets high school graduation requirement for Practical Art or electives
Weighted grade