# AP Computer Science Principles

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 AP CSP course is organized around seven **big ideas**, which are essential to studying computer science.
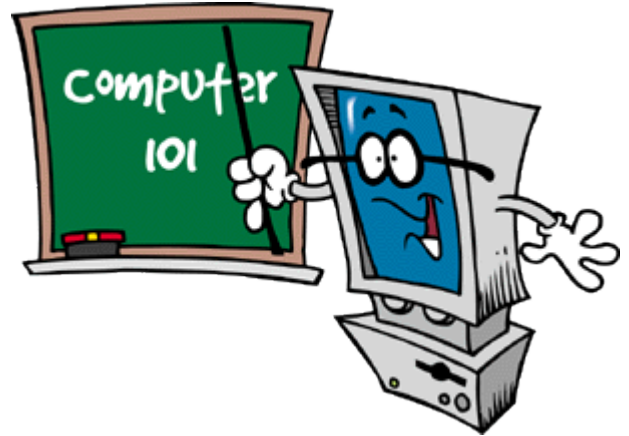
Big Idea 1: Creativity

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

Abstraction is a central problem-solving technique in computer science. In this course, you'll use abstraction to model the world and communicate with people and 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 to better understand the many ways in which data is transformed into information and knowledge.

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'll learn 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.
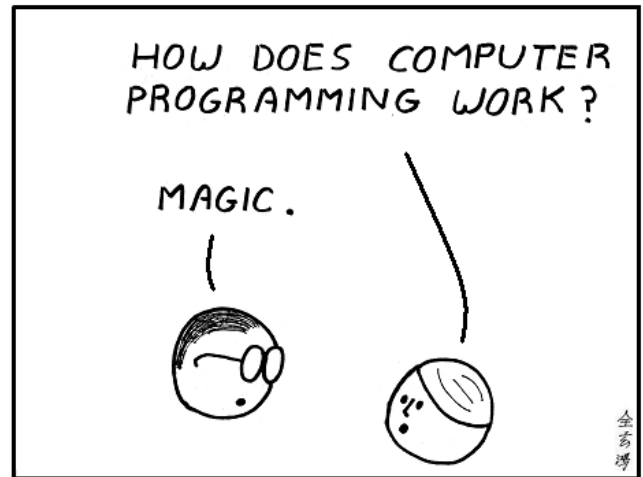
Big Idea 6: The Internet

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'll 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.

College Credit

By taking this class you will have an opportunity to receive college credit for introductory computer science. Your college credit will be determined by your performance on:

- **Performance Task: Explore** – You will research and report on computing innovations that impact the world
- **Performance Task**: **Create** – You will design, test, and eventually submit a program of your own writing
- **Multiple Choice Exam –** Administered in May

The QR code will take you to the AP Computer Science Principles page of the College Board website, if you would like further information