

AP Computer Science Principles

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Introduction to Computer Science

How can computing change the world? What is computer science? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! Computer Science (CS) Principles is an intellectually rich and engaging course that is focused on building a solid understanding and foundation in computer science. This course emphasizes the content, practices, thinking and skills central to the discipline of computer science. Through both its content and pedagogy, this course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating.

Pacing Guide

Due dates listed on the pacing guide are guidelines and official due dates are found in itsLearning on the planner along with the weekly schedule and resources.

Unit	Semester	Year Long
Unit 1 - Introduction to Computer Science	August 7	August 7
Unit 2 - Computer Science Careers	August 9	August 14
Unit 3 - Data Representation	August 15	August 21
Unit 4 - Algorithm Analysis	September 11	October 2
Unit 5 - Computer Programming & Greenfoot or Python	October 1	October 15
Unit 6 - Operation of the Internet	November 6	January 22

Unit 7 - Innovation & Problem Solving	November 13	February 21
Unit 8 - Managing Data in a Digital World	December 4	March 26

What is Computer Science?

One of Mrs. Rush's Computer Science classes defined computer science as "Computer Science is the understanding of programming, computer functions and problem solving as well as how it applies to other fields, and the social impact on the user."

Another Computer Science class defined computer science as "Computer Science is the study of building and writing computer programs, solving problems with algorithms and understanding how hardware and software works, promoting educational opportunities and helping to expand social opportunity, connecting to different aspects of life, and evolving into something greater than the present."

Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry.

Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

Where did all of this technology get started? Let's take a look at the world's first computer.

Competencies in the co-curricular student organization, [Future Business Leaders of America \(FBLA\)](#), are integral components of both the employability skills standards and content standards for this course. Various forms of technologies will be highlighted to expose students to the emerging

technologies impacting the digital world. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are taught in this course as a foundational knowledge to prepare students to be college and career ready. The knowledge and skills taught in this course build upon each other to form a comprehensive introduction to digital world. Feel free to download the [course information from College Board](#).

Syllabus

Download the [AP Computer Science Principles](#) syllabus. Information contained in the syllabus is subject to change if necessary.

Help Desk

Students who experience technical difficulties with itsLearning or Infinite Campus should contact [Forsyth Virtual Academy](#) for assistance.

Students who experience technical difficulties with the lessons or mrsrush.net should contact Mrs. Rush through the itsLearning email client or at sanderson-rush@forsyth.k12.ga.us

Assignment: What is Computer Science?

Directions: Do you know what Computer Science is? Write your own definition of computer science and add it to the *What is Computer Science discussion board*. Then create a custom digital artifact such as an Animoto, infographic or poster (Word document or single PowerPoint slide acceptable) that illustrates your definition.

[Transcript of this page](#)

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