AP Computer Science Principles
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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: I: Computing is a creative activity. II: Abstraction reduces information and detail to facilitate focus on relevant concepts. III: Data and information facilitate the creation of knowledge.
IV: Algorithms are used to develop and express solutions to computational problems. V: Programming enables problem solving, human expression, and creation of knowledge. VI: The Internet encompasses modern computing. VII: Computing has global impacts. Students will be expected to connect computing to other disciplines, develop computational artifacts, use abstraction and analysis to develop models and problem solutions, and communicate their work as individuals and as team members

Course Expectations:

- ✓ Students are responsible for following all District, OPHS, and classroom rules and directions.
- ✓ Students will be using their school G accounts. DO NOT share this information with other students. Students will **not** be excused from assignments if the work "is lost" from the student's work folder. Students are responsible for their own folders and correct saving of their work.

Academic Honesty:
Students will not misrepresent class work, research assignments, class projects, examinations and homework assignments as their own, when in fact, they are the work of someone else.

Grading Policy:
Students will be graded on the point systems. Students will receive grades for their submitted assignments, lab work, quizzes, tests, individual and group projects. In addition, students will receive points for class participation, which includes ability to collaborate, behavior and cooperation. Grades will be posted on the District "Q" Website and GClassroom. Each student and family will have access to the student grade.
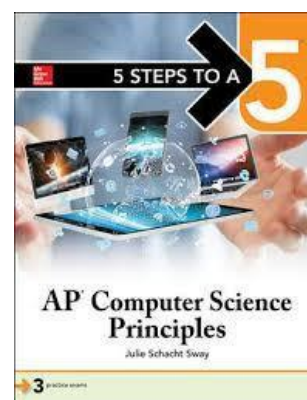
Make-up and Late Work Policy:
It is the student's responsibility to find out what she/he missed during their absence. Assignments are posted and updated on the Teacher website: http://erikamerikaner.com. Assignments will be accepted one week past the posted due date for one-half credit. After the past-due date, the student will receive a zero for the assignment.
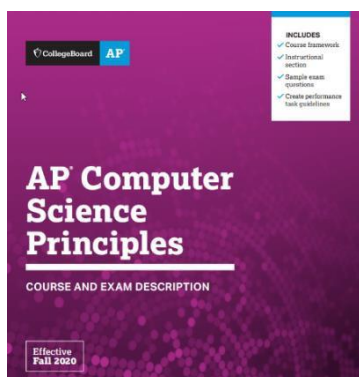
[APCSP Guide (260 pages)](#)
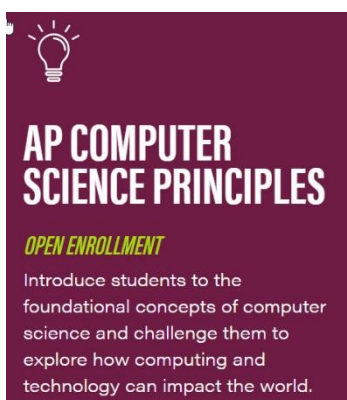
Learning Materials Access   Digital Workbook

Various Resources and on-line reading and research.

Parents and students are welcome to contact me anytime through email eamerikaner@opusd.org .
I will return your message as soon as possible. I look forward to working with your student this year.
Thank you. Mr. Amerikaner

Students will access classroom from Google Classroom and Gmeets.

Please follow the directions below:

Assignment # 1   This is a graded assignment, worth 10 points.

1. From your **PRIMARY** Email address send an Email to: eamerikaner@opusd.org

2. In the Subject Line: **Your First and Last Name and Class Period**- For example: Steven Spielberg Period 3

3. In the Body of the Email: Three (3) complete sentences giving **your** goals for this class---What do you want to learn?

Assignment # 2   This is a grade assignment, worth 10 points.
1. Ask your **parents** to send an Email to: eamerikaner@opusd.org

2. In the Subject Line: **Student: First and Last Name and Class Period**-For example: Steven Spielberg Period 3

3. Please confirm you have reviewed the syllabus; student computer has access to correct software; **AND tell me THREE (3) wonderful facts about your student.**

Revised 7/2021

Introduction

AP Computer Science Principles (AP CSP) is a full-year, rigorous course that introduces students to the foundational concepts of computer science and explores the impact computing and technology have on our society. The course covers a broad range of foundational topics including: programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing.

About the Course

Project STEM developed this course in partnership with the University of Texas at Austin's UTeach Institute. This custom course combines the esteemed UTeach CS Principles curriculum with additional features and tools specific for a technology-driven student-centered curriculum, including: instructional lesson videos and slides, worked practice problems, unit project scaffolding, student activity and task examples and grading rubrics, enhanced online and offline question banks with College Board-style questions, annotated explanations for all assessment questions, and a practice mini performance task. Additionally, UTeach's lesson plans have been substituted for lesson and unit guides, since they have been revised to focus less on teacher-driven directives for students ("say this," "do this," etc.) and more on teaching tips and strategies.

All schools using Project STEM's AP CSP course should use this syllabus.

Course Overview

Prerequisites
The College Board suggests students successfully complete a first year high school Algebra course prior to enrolling in AP CSP. An Algebra course will provide a strong foundation in problem solving, basic linear functions, composition of functions, and the Cartesian (x,y) coordinate system. These skills and topics are essential for student facility in this course. For further preparation, we recommend students complete our Computer Science Python Fundamentals course prior to taking this course. That course introduces students to the fundamentals of computing, providing a foundation on which this course can build.

The College Board adheres to an open enrollment policy for this course, meaning any student that is willing and academically prepared can participate in the course.

Pedagogical Approach
Project STEM's AP CS Principles course follows the blended learning model. It takes a student-centered approach powered by technology to help realize the goal of high achievement for all students. The course promotes student engagement, independent thought and interactive collaboration with peers. Student-centric lessons, activities and assessments are paired with augmentative teacher-centric lesson, activity and task guides and reporting to empower teachers to empower students. Additionally, teacher and student forums with moderation and input from Project STEM staff and team of teaching assistants provide dynamic community and support.

Programming Requirements
The coding languages Scratch and Python are both used in this course. Scratch is a free block-based programming environment that is accessible enough for beginners, yet can support the development of advanced algorithms used in more complex games and applications. Python is a text-based language with easy to read and write syntax - perfect for beginning programmers.

Course Goals

Project STEM's AP CSP course fully addresses the College Board's AP Computer Science Principles Curriculum Framework. The framework defines two through-course curricular requirements: six "computational thinking practices" and five "big ideas." Additionally, the framework describes in detail what students should be able to do, know, and retain by the end of the course with three types of expressions: Enduring Understandings, Learning Objectives, and Essential Knowledge Statements. A basic overview of each of these items is provided below, and we encourage instructors to read more about them in the AP Computer Science Principles Curriculum Framework.

Six Computational Thinking Practices
The six Computational Thinking Practices contain skills that students should develop to not just learn about content, but to change their way of thinking.

Computational Thinking Practices					
P1	P2	P3	P4	P5	P6
Computational Solution Design	Algorithms and Program Development	Abstraction in Program Development	Code Analysis	Computing Innovations	Responsible Computing

Five Big Ideas
The course material focuses on Five Big Ideas. These ideas encompass concepts that are foundational to computer science.

Big Ideas				
Big Idea 1 (CRD)	Big Idea 2 (DAT)	Big Idea 3 (AAP)	Big Idea 4 (CSN)	Big Idea 5 (IOC)
Creative Development	Data	Algorithms and Programming	Computing Systems and Networks	Impact of Computing

Enduring Understandings
Enduring Understandings (EUs) describe the concepts students should understand after going through this course. The goal is for Learning Objectives and Essential Knowledge Statements to build Enduring Understandings.

Learning Objectives
Learning Objectives (LOs) articulate what students should be able to do by the end of the course. Each learning objective corresponds to one of the Five Big Ideas and one part of a computational thinking practice. Both the multiple choice exam and through-course performance task test students' mastery of these learning objectives.

Essential Knowledge Statements
Essential Knowledge Statements (EKs) provide facts or concepts students should know to prove their understanding of the learning objectives.

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The AP Exam

The AP Exam will test students on their understanding of the five big ideas through a multiple-choice exam and one through-course performance task. Together, these components will be used to calculate the AP score (on a 1-5 scale).

Multiple Choice Exam
The 70-question multiple choice exam will test students' understanding of computational logic, which they will learn over the course of the year. This section is programming language agnostic, meaning students don't have to know a formal coding language to complete this part of the exam. The multiple-choice exam will be May 9, 2022, and accounts for 70% of a student's total AP score.

Performance Task
The performance task in this course is called the Create Task. This task functions as a project that students must complete independently and submit online prior to taking the multiple-choice portion of the exam. The Create Task is worth 30% of a student's overall AP score. In this task, students will create their own program. Students will submit a video of their program running and a written response describing how their program works. The students must be given a minimum of 12 hours in class to work on it.

Students are required to submit their performance task via the College Board's online Digital Portfolio by April 30, 2022 at 11:59 p.m. ET.