# AP COMPUTER SCIENCE PRINCIPLES

### FREEDOM HIGH SCHOOL 2018-2019

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Code.org's Computer Science Principles (CSP) curriculum is a **full-year, rigorous, entry-level** course that introduces high school students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. The course is designed for typical school settings with teachers in classrooms. All student materials are provided for free online.

## **AP Endorsed**

Code.org is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of Code.org CSP's offerings are aligned to the AP Curriculum Framework standards, the AP CSP assessment, and the AP framework for professional development. Using an endorsed provider affords schools access to resources including an AP CSP syllabus pre-approved by the College Board's AP Course Audit, and officially recognized professional development that prepares teachers to teach AP CSP.

## **Curriculum Overview and Goals**

Computing affects almost all aspects of modern life and all students deserve access to a computing education that prepares them to pursue the wide array of intellectual and career opportunities that computing has made possible. Here is a brief summary of each of the units in the Code.org CSP curriculum.

Unit 1: The Internet	Learn how the multi-layered systems of the Internet function as you collaboratively solve problems and puzzles about encoding and transmitting data, both `unplugged' and using Code.org's Internet Simulator
Unit 2: Digital Information	Use a variety of digital tools to look at, generate, clean, and manipulate data to explore the relationship between information and data. Create and use visualizations to identify patterns and trends.
Unit 3: Algorithms and Programming	Learn the JavaScript language with turtle programming in Code.org's App Lab. Learn general principles of algorithms and program design that are applicable to any programming language.
Unit 4: Big Data and Privacy	Research current events around complex questions related to public policy, law, ethics, and societal impact. Learn the basics of how and why modern encryptions works.
Unit 5: Building Apps	Continue learning how to program in the JavaScript language. Use Code.org's App Lab environment to create a series of applications that live on the web. Each app highlights a core concept of programming.

This course is not a tour of current events and technologies. Rather, it seeks to provide students with a "future proof" foundation in computing principles so that they are adequately prepared with both the knowledge and skills to live and meaningfully participate in our increasing digital society, economy, and culture.

# Grading

25% Formative work (including classwork, homework, practice tasks leading to summative work) 75% Summative work (end of unit exams, projects, etc. – there will NOT be any make-up tests to raise grade)

### Absences

Students will be able to make up work missed due to **excused** absences, but it will be the students' responsibility to get the missed work. All work will be available online and the lab is open before school each day, but not after school. For after school, please use the HELP lab.

### Late Work

Work is due as assigned and posted and late work will be accepted but with penalty based on how late. Work turned in with no name will be considered LATE.

## Extra Credit

As a general rule there is **NO EXTRA CREDIT**, as extra credit for students translates to extra work for me. **AN EXCEPTION TO THIS WILL BE THE DONATION OF A REAM OF COPY PAPER** for use in the classroom printer. To prevent printer issues, only sealed packages of paper can be accepted.