

# AP<sup>®</sup> CS Principles and Computer Science I Comparison

## AP<sup>®</sup> CS Principles

### What is AP<sup>®</sup> Computer Science Principles (AP<sup>®</sup> CSP)?

- Introduces students to the essential ideas of computer science.
- Challenges students to explore how computing and technology impact the world around them.
- Provides a foundation of knowledge that can be applied across disciplines, no matter the student's major or career focus- from STEM fields to music and the arts. Chances are, no matter what field of interest, computers play a role.

### What makes AP<sup>®</sup> CSP special?

- Creatively address world issues and concerns.
- Use the same processes and tools as artists, musicians, engineers, computer scientists and others to bring ideas to life.
- Conceptualize and build digital projects, such as videos or mobile apps, that have practical, real-world use.
- Learn how to identify threats to cyber security and ways to use the internet to address such concerns.

### What does AP<sup>®</sup> CS Principles Cover?

#### Creativity

Create a computational artifact for creative expression.

#### Abstraction

Explain how binary sequences are used to represent digital data.

#### Data and Information

Extract information from data to discover and explain connections, patterns, or trends.

#### Algorithm

Express an algorithm in a language.

#### Programming

Collaborate to develop a program.

#### Global Impact

Analyze the beneficial and harmful effects of computing.

#### The Internet

Explain characteristics of the Internet and the systems built on it.

## What does the AP® Exam Cover?

### Part I: Through-Course Assessments (40% of AP® Score)

1. Upload digital artifacts (e.g., a video, spreadsheet, graph, app, electronic slide show) and written responses via a Web-based digital application.
2. Describe or analyze your work, whether it includes research, the creation of a digital artifact, or the creation of a program.

### Part II: End-Of-Course AP® Exam (60% of AP® Score)

1. Paper and pencil written exam.
2. 120 minutes with 74 multiple choice questions.
3. First administration in Plano ISD May 2018.

## Who Should take AP® Computer Science Principles?

- Students with strong creative and computational thinking skills.
- Students who have completed Math 8 or Algebra I in 8<sup>th</sup> grade.
- Students with interest in coding/programming (no experience required).
- This course is open to all students.
- Students pursuing a variety of career and college pathways (not just STEM/computer science).

## Computer Science I

### What is Computer Science I?

- Introduces students to the automated processing of information, including computer programming.
- Students learn digital citizenship by researching current laws and regulations and by practicing integrity and respect.
- Students are equipped to read and write small programs in the language of Java in response to a given problem or scenario.
- No previous coding / programming experience is required.

### Who should take Computer Science I?

- Students with strong computational thinking skills.
- Students who have completed Algebra I.
- Students with interest in coding/programming (no experience required).
- This course is open to all students.
- Students pursuing a variety of career and college pathways (not just STEM/computer science).