



# CS Applications: Java

Grades 6-12

## Programming Language:

Java

## Software used in Course:

BlueJ or Pickcode.io

## Supported Devices

Mac  
Windows  
Chromebook

## Instructional Models:

Direct Instruction  
Instructional Scaffolding  
Use of Learning Objectives  
Relevant Vocabulary  
Bloom's Taxonomy or Questions  
Inquiry-Based Instruction  
Project-Based Instruction  
Cooperative Learning  
Independent Study

## Supported Learning Models:

Classroom  
Blended  
Hybrid  
Synchronous  
Asynchronous

## Standards Aligned:

National and State Computer  
Science Standards

## Reinforces:

Math  
ELA  
Social-Emotional Learning

## Course Description

In this course, students will apply computer science concepts using the Java programming language. Students will develop computational thinking skills by building projects, such as a fitness tracker, basic calculator, and a music application, that incorporate loops, objects, methods, and classes. Digital Citizenship and STEM Career lessons explore security threats and measures and a variety of careers. By the end of this course, students will have practiced the computational thinking and analytical skills needed to prepare for AP Computer Science.

## Learning Objectives

Each lesson plan is designed to enable students to achieve specific learning outcomes related to course aligned computer science competencies. For example, at the end of this course students will be able to:

- Construct and manipulate values by implementing arithmetic operators and mathematical methods.
- Seek and incorporate feedback to refine a program.
- Apply knowledge of conditionals to create a software program that serves a given purpose.
- Establish classes in code to create objects with specific attributes.
- Explain how physical security measures protect electronic devices and information.