



High School Computer Science Java

Elective

Programming Language:

Java

Software used in Course:

BlueJ
Repl.it

Supported Devices

Mac
Windows
Chromebook

Instructional Models:

Direct Instruction
Instructional Scolding
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

Demonstrate existing computer science skills and deepen interest in programming. Learn the basics of object oriented programming using Java, an advanced line coding language. Explore loops, objects, methods, and classes, and use them to develop airplane data modeling and user input projects, among others.

Unplugged and Digital Citizenship lessons explore the importance of digital and physical security in relation to cybersecurity. At the end of this course, students will be prepared for AP Computer Science at the high school level.

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:

- Define object-oriented programming by relating the concepts of classes, objects, and methods.
- Apply knowledge of conditionals to create a software program that serves a given purpose.
- Identify, evaluate, and address errors through testing and debugging of a coded program.
- Identify, interpret, and implement classes and methods while developing a software program.
- Transform generated data into a computational model to make it more useful and reliable.
- Explain how digital security measures protect electronic devices and information.