

Programming Language:
Python

Supported Devices:
Mac
Windows
Chromebook

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

Supported Learning Models:
Classroom
Flipped Classroom
Blended
Hybrid
Synchronous
Asynchronous

*Aligned With National
CS Standards*

Reinforces:
Logical thinking
Creativity
Persistence
Resilience
Communication skills
Structural thinking
Problem-solving

INTRODUCTION TO PROGRAMMING WITH PYTHON

PROGRAM DESCRIPTION

The Essentials Python course series features 72 lessons in coding immersion designed with instructional scaffolding to promote academic equity and success across all learning levels. In this course series, students will begin with the very basic building blocks of coding (variables, functions, and decisions) and will use these skills to reach more advanced topics.

Each course is divided into three types of lessons; teaching, project, and challenge, followed by a cumulative capstone projects.

- **TEACHING LESSONS** focus on introducing students to new concepts and allowing them to practice with sufficient assistance.
- **LESSON PROJECTS** allow students to apply learned skills.
- **CHALLENGE LESSONS** help develop students as programmers, allowing them to formulate solutions to problems independently.
- **CAPSTONE PROJECTS** act as milestones for students to apply everything that they have learned in in-depth projects.

Through guided instruction, Essentials teaches students how to independently debug their code, a critical skill used by programmers. Developing this learning is made easier by the Essentials methodology of integrating these concepts gradually. By the end of the Python Program, students will have the necessary skill sets to be comfortable coding in Python and creating projects.

LEARNING OBJECTIVES

CodeWizardsHQ developed Essentials to support students in real-world, comprehensive learning. Students not only learn how to code but to think like programmers. Each lesson is designed to build computational thinking while learning how to code using Python.

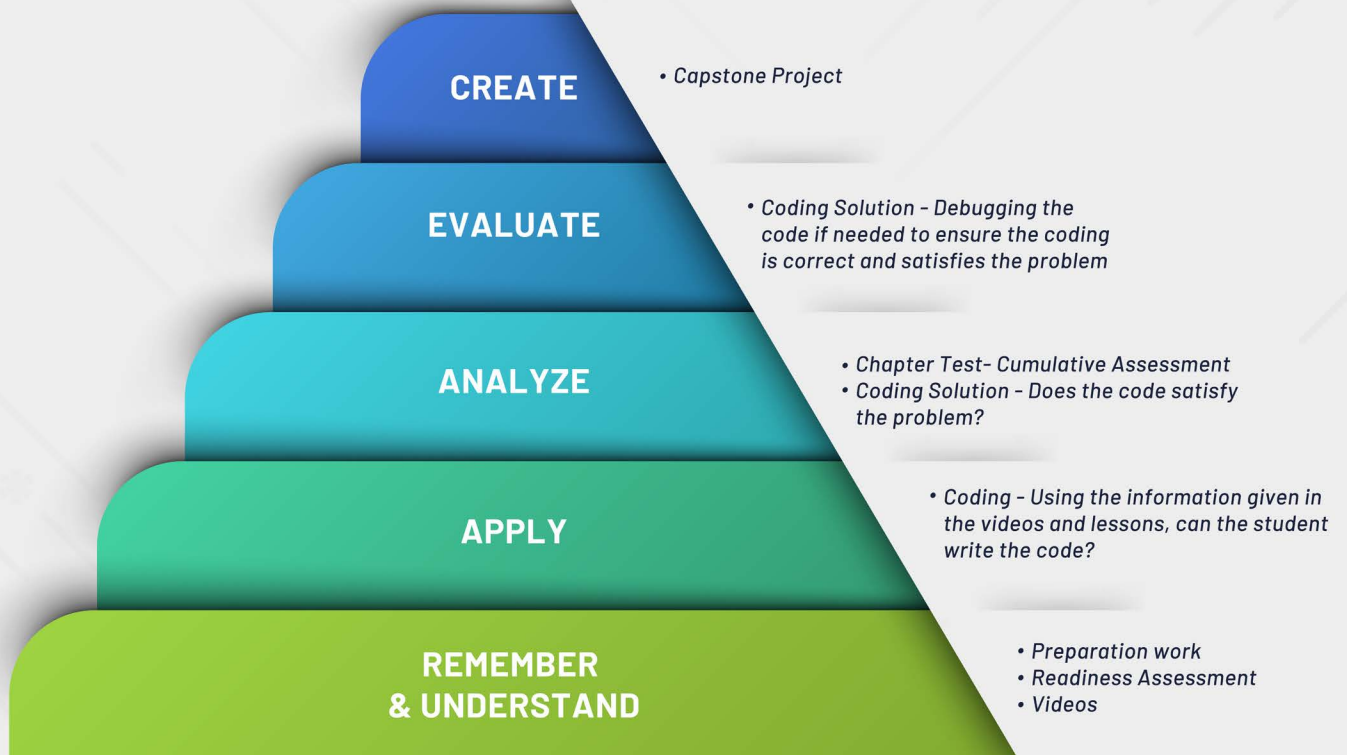
BY THE END OF THE COURSE SERIES STUDENTS WILL BE ABLE TO:

- Differentiate between different data types in their programs
- Understand how to perform and display results of mathematical operations in code
- Understand, create, and update variables
- Be familiar with using different types of strings
- Understand conditional, elif, and greater than and less than statements
- Confidently use decisions, loops, and functions to create various projects
- Make use of the break and continue keywords
- Understand and create functions
- Understand variable scope and what is stored in a variable
- Learn to incorporate and work with parameters and learn about arguments
- Apply good user experience guidelines to create accessible projects
- Be able to read and write to an external file using Python
- Use various Python libraries

RESOURCES INCLUDED:

- Learning Management System
- Cloud-based platform
- Administrative dashboard
- Integrated Development Environment
- Learning targets and planning tasks
- Pre-lesson activities
- Teacher/student engagement actions
- Assessing and advancing questions
- Engaging concept videos
- Proprietary slide decks
- Comprehensive assessment tools
- Auto-graded quizzes and tests
- Common errors and their solutions
- Cumulative capstone projects

ESSENTIALS CURRICULUM IN APPLICATION OF BLOOM'S TAXONOMY



BEGIN YOUR ESSENTIALS CODING JOURNEY TODAY!

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