

Course Description:

Introduction to Coding (1 of 2) introduces the basic syntax and logic of writing in JavaScript. Topics include the three types of data: strings, numbers, and Boolean, and their variables; performing operations on variables; basic operations followed by logic operations and control structures. The course concludes with using procedures to simplify repeated code.

Course Objectives:

- Read and interpret flowcharts depicting programming logic.
- Develop programming logic using flowcharts.
- Describe how JavaScript code interacts with HTML to create dynamic web content.
- Develop algorithms to simplify complex tasks.
- Describe reasons to use comments in code.
- Identify appropriate data types to solve a particular problem.
- Read, store, and alter data using JavaScript.
- Perform different mathematical computations using variables.
- Employ nested structures and compound conditionals to increase program efficiency.
- Use Boolean operators and variables effectively within control structures.

Required Materials:

None.

Course Overview:

Unit 1: Coding Basics

- Lesson 1: Explore Reasons to Use JavaScript
 - Activity 1: Instruction: Explore Reasons to Use JavaScript
 - Activity 2: Workbook: Explore Reasons to Use JavaScript
 - Activity 3: Checkpoint: Explore Reasons to Use JavaScript
- Lesson 2: Inspect an Example of JavaScript
 - Activity 1: Instruction: Inspect an Example of JavaScript
 - Activity 2: Workbook: Inspect an Example of JavaScript
 - Activity 3: Checkpoint: Inspect an Example of JavaScript
- Lesson 3: Identify and Describe the 3 Types of Data
 - Activity 1: Instruction: Identify Strings
 - Activity 2: Instruction: Identify Numbers
 - Activity 3: Instruction: Identify Booleans
 - Activity 4: Workbook: Identify and Describe the 3 Types of Data
 - Activity 5: Checkpoint: Identify and Describe the 3 Types of Data
- Lesson 4: Perform an Operation on Strings
 - Activity 1: Instruction: Perform the Concatenation Operation
 - Activity 2: Workbook: Perform the Concatenation Operation
 - Activity 3: Checkpoint: Perform an Operation on Strings
- Lesson 5: Identify and Assign String Variables

- Activity 1: Instruction: Identify and Assign String Variables
- Activity 2: Workbook: Identify and Assign String Variables
- Activity 3: Unit Review: Coding Basics
- Activity 4: Unit 1 Exam: Coding Basics

Unit 2: Numbers

- Lesson 6: Code Basic Math Operations
 - Activity 1: Instruction: Code Basic Math Operations
 - Activity 2: Workbook: Code Basic Math Operations
 - Activity 3: Checkpoint: Code Basic Math Operations
- Lesson 7: Apply the Order of Operations with Grouping Symbols
 - Activity 1: Instruction: Apply the Order of Operations with Grouping Symbols
 - Activity 2: Workbook: Apply the Order of Operations with Grouping Symbols
 - Activity 3: Checkpoint: Apply the Order of Operations with Grouping Symbols
- Lesson 8: Assign Number Variables
 - Activity 1: Instruction: Assign Number Variables
 - Activity 2: Workbook: Assign Number Variables
 - Activity 3: Checkpoint: Assign Number Variables
- Lesson 9: Code with Increments and Decrements
 - Activity 1: Instruction: Code with Increments and Decrements
 - Activity 2: Workbook: Code with Increments and Decrements
 - Activity 3: Checkpoint: Code with Increments and Decrements
- Lesson 10: Apply += and -=
 - Activity 1: Instruction: Apply += and -=
 - Activity 2: Workbook: Apply += and -=
 - Activity 3: Unit Review: Numbers
 - Activity 4: Unit 2 Exam: Numbers

Unit 3: Boolean

- Lesson 11: Apply Logical Operator "And"
 - Activity 1: Instruction: Apply Logical Operator "And"
 - Activity 2: Workbook: Apply Logical Operator "And"
 - Activity 3: Checkpoint: Apply Logical Operator "And"
- Lesson 12: Apply Logical Operator "Or"
 - Activity 1: Instruction: Apply Logical Operator "Or"
 - Activity 2: Workbook: Apply Logical Operator "Or"
 - Activity 3: Checkpoint: Apply Logical Operator "Or"
- Lesson 13: Apply Logical Operator "Not"
 - Activity 1: Instruction: Apply Logical Operator "Not"
 - Activity 2: Workbook: Apply Logical Operator "Not"
 - Activity 3: Checkpoint: Apply Logical Operator "Not"
- Lesson 14: Combine Logical Operators
 - Activity 1: Instruction: Combine Logical Operators
 - Activity 2: Workbook: Combine Logical Operators
 - Activity 3: Checkpoint: Combine Logical Operators
 - Activity 4: Project: Apply the 3 Data Types
 - Activity 5: Project: Apply the 3 Data Types- Submission
- Lesson 15: Use Undefined and Null as Variables

- Activity 1: Instruction: Use Undefined and Null as Variables
- Activity 2: Workbook: Use Undefined and Null as Variables
- Activity 3: Unit Review: Boolean
- Activity 4: Unit 3 Exam: Boolean

Unit 4: Restraints and Objects

- Lesson 16: Use Less Than or Greater Than in Boolean Operations
 - Activity 1: Instruction: Use Less Than or Greater Than in Boolean Operations
 - Activity 2: Workbook: Use Less Than or Greater Than in Boolean Operations
 - Activity 3: Checkpoint: Use Less Than or Greater Than in Boolean Operations
- Lesson 17: Perform Operations Using 1, 2, or 3 Equal Signs
 - Activity 1: Instruction: Perform Operations Using 1, 2, or 3 Equal Signs
 - Activity 2: Workbook: Perform Operations Using 1, 2, or 3 Equal Signs
 - Activity 3: Checkpoint: Perform Operations Using 1, 2, or 3 Equal Signs
- Lesson 18: Create Objects to Store Data
 - Activity 1: Instruction: Create Objects to Store Data
 - Activity 2: Workbook: Create Objects to Store Data
 - Activity 3: Checkpoint: Create Objects to Store Data
- Lesson 19: Use Objects to Retrieve Data
 - Activity 1: Instruction: Use Objects to Retrieve Data
 - Activity 2: Workbook: Use Objects to Retrieve Data
 - Activity 3: Checkpoint: Use Objects to Retrieve Data
- Lesson 20: Use Arrays to Work with Data
 - Activity 1: Instruction: Use Arrays to Work with Data
 - Activity 2: Workbook: Use Arrays to Work with Data
 - Activity 3: Unit Review: Restraints and Objects
 - Activity 4: Unit 4 Exam: Restraints and Objects

Unit 5: Control Structures

- Lesson 21: Use Conditional Statements as Control Structures
 - Activity 1: Instruction: Use Conditional Statements as Control Structures
 - Activity 2: Workbook: Use Conditional Statements as Control Structures
 - Activity 3: Checkpoint: Use Conditional Statements as Control Structures
- Lesson 22: Use Loops as Control Structures
 - Activity 1: Instruction: Use Loops as Control Structures
 - Activity 2: Workbook: Use Loops as Control Structures
 - Activity 3: Discussion: For Loops versus While Loops
 - Activity 4: Checkpoint: Use Loops as Control Structures
- Lesson 23: Examine Control Structures Using Flow Charts
 - Activity 1: Instruction: Examine Control Structures Using Flow Charts
 - Activity 2: Workbook: Examine Control Structures Using Flow Charts
 - Activity 3: Checkpoint: Examine Control Structures Using Flow Charts
- Lesson 24: Use Compound Conditionals as Control Structures
 - Activity 1: Instruction: Use Compound Conditionals as Control Structures
 - Activity 2: Workbook: Use Compound Conditionals as Control Structures
 - Activity 3: Checkpoint: Use Compound Conditionals as Control Structures
- Lesson 25: Use Nested Loops as Control Structures
 - Activity 1: Instruction: Use Nested Loops as Control Structures

- Activity 2: Workbook: Use Nested Loops as Control Structures
- Activity 3: Unit Review: Control Structures
- Activity 4: Unit 5 Exam: Control Structures

Unit 6: Procedures

- Lesson 26: Write and Call Procedures
 - Activity 1: Instruction: Write and Call Procedures
 - Activity 2: Workbook: Write and Call Procedures
 - Activity 3: Checkpoint: Write and Call Procedures
- Lesson 27: Pass Arguments Into Procedures
 - Activity 1: Instruction: Pass Arguments Into Procedures
 - Activity 2: Workbook: Pass Arguments Into Procedures
 - Activity 3: Checkpoint: Pass Arguments Into Procedures
- Lesson 28: Examine Procedure Outputs
 - Activity 1: Instruction: Examine Procedure Outputs
 - Activity 2: Workbook: Examine Procedure Outputs
 - Activity 3: Checkpoint: Examine Procedure Outputs
- Lesson 29: Simplify Code with Procedures
 - Activity 1: Instruction: Simplify Code with Procedures
 - Activity 2: Workbook: Simplify Code with Procedures
 - Activity 3: Checkpoint: Simplify Code with Procedures
- Lesson 30: Develop a Program
 - Activity 1: Instruction: Develop a Program
 - Activity 2: Project: Develop a Program
 - Activity 3: Project: Develop a Program- Submission
 - Activity 4: Final Review
 - Activity 5: Final Exam