

Course Title: Coding Fundamentals
Course Type: Orientation/Exploratory
Career Cluster: Information Technology
Course Number: 9009200
CIP Number: 0511020109
Grade Level: 6-8

- M1** Module 1: Jumping Right In
- M2** Module 2: Making an Arcade Game
- M3** Module 3: Cryptography
- M4** Module 4: Introduction to Unity
- M5** Module 5: VR Village

Florida CTE Standards for Coding Fundamentals

Benchmark Code

VRFA Course Reference

Demonstrate proficiency using specialized computer coding software. – The student will be able to:

- | | | |
|---|------------------|----------------|
| <ul style="list-style-type: none"> • Use specialized computer coding software to solve problems. | SC.68.CS-CS.4.8 | M1 M2 M3 M4 M5 |
| <ul style="list-style-type: none"> • Demonstrate proficiency using specialized computer software (e.g. Swift, Python). | SC.912.CS-CP.3.2 | M1 M2 M3 |

Develop an awareness of programming languages. – The student will be able to:

- | | | |
|--|------------------|----------|
| <ul style="list-style-type: none"> • Identify programming language design approaches. | SC.68.CS-CP.2.3 | M1 M2 M3 |
| <ul style="list-style-type: none"> • Explain the components of programming languages. | SC.912.CS-CP.2.5 | M1 M2 M3 |
| <ul style="list-style-type: none"> • Examine connections between elements of mathematics and computer science including binary numbers, logic, sets, and functions. | SC.68.CS-CS.1.1 | M1 M2 M3 |

Demonstrate proficiency of using common software applications. – The student will be able to:

- | | | |
|--|------------------|----------------|
| <ul style="list-style-type: none"> • Compare and contrast the appropriate use of various software applications. | SC.35.CS-CS.4.3 | M1 M2 M3 M4 M5 |
| <ul style="list-style-type: none"> • Demonstrate proficiency in the use of various software applications. | SC.35.CS-CS.4.4 | M1 M2 M3 M4 M5 |
| <ul style="list-style-type: none"> • Explain why different file types exist (e.g., formats for word processing, images, music, and three-dimensional drawings). | SC.912.CS-CS.3.2 | M2 M4 M5 |
| <ul style="list-style-type: none"> • Identify the kinds of content associated with different file types. | SC.68.CS-CS.3.1 | M2 M4 M5 |

Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance. – The student will be able to:

- | | | |
|--|------------------|----------------|
| <ul style="list-style-type: none"> • Develop keyboarding skills to enter and manipulate text and data. | SC.35.CS-CP.2.1 | M1 M2 M3 |
| <ul style="list-style-type: none"> • Describe and use current and emerging computer technology and software to perform personal and business related tasks. | SC.912.CS-CS.4.6 | M1 M2 M3 M4 M5 |

Florida CTE Standards and Benchmarks for Coding Fundamentals	Benchmark Code	VRFA Course Reference
Demonstrate comprehension and communication. – The student will be able to:		
• Use listening, speaking, telecommunication and nonverbal skills and strategies to communicate effectively.	SC.K2.CS-PC.2.2	M1 M2 M3 M4 M5
• Organize ideas and communicate oral and written messages.	SC.35.CS-CP.3.1	M1 M2 M3 M4 M5
• Collaborate with individuals and teams to complete tasks and solve information technology problems.	SC.35.CS-CP.3.2	M1 M2 M3 M4 M5
• Demonstrate an awareness of project management concepts and tools.	SC.912.CS-CC.1.2	M4 M5
• Demonstrate an ability to communicate appropriately through various online tools.	SC.912.CS-CC.1.4	M1 M2 M3 M4 M5
• Recognize that more than one algorithm can solve a given problem.	SC.912.CS-CS.2.10	M3
• Create a program that implements an algorithm to achieve a given goal, individually and collaboratively.	SC.912.CS-CS.2.5	M3
Demonstrate knowledge of different operating systems. – The student will be able to:		
• Compare and contrast various operating systems used in a computer and mobile devices (i.e. Windows, OS (Apple), UNIX, Android, iOS).	SC.68.CS-CS.4.2	M5
• Demonstrate proficiency in using gadgets, icons, and task bars and other pre-loaded operating system programs (e.g. calculator, text editor, clock, volume controls, adding icons and shortcuts to task bar and shortcut menus).	SC.68.CS-CS.4.2	M4 M5
• Use iterative development and debugging to explore the problem domain.	SC.912.CS-CS.2.11	M1 M2 M3
Demonstrate proficiency in basic programming. – The student will be able to:		
• Describe the structure of a simple program, and explain why sequencing is important.	SC.K2.CS-CP.2.4	M1 M2 M3
• Define the term “algorithm,” and explain how it relates to problem-solving.		M3
• Describe iterative programming structures (e.g. while, do/while) and how they are used in programming.		M2 M3
• Describe selection programming structures (e.g. if/then, else) and explain the logic used for if statements	SC.68.CS-CS.2.7	M1 M2 M3
• Explain the types and use of variables in programming	SC.68.CS-CP.2.3	M1 M2 M3
• Write a simple program in pseudo-code that used structured programming to solve a problem.		M2 M3
• Troubleshoot and debug errors in code.		M1 M2 M3

The VRFA was specifically built to support Florida's Coding Fundamentals course. It provides a 93% alignment to its CTE standards.