

## CompuScholar, Inc.

### Alignment to Florida "Foundations of Programming" Course Standards

#### Florida Course Details:

<b>Course Name:</b>	Foundations of Programming (2024+)
<b>Course Code(s):</b>	9007210
<b>Credit:</b>	1
<b>State Standards Link:</b>	<a href="https://www.cpalms.org/PreviewCourseProgram/Preview/4258">https://www.cpalms.org/PreviewCourseProgram/Preview/4258</a>

#### CompuScholar Course Details:

<b>Course Title:</b>	Java Programming
<b>Course ISBN:</b>	978-1-946113-99-3
<b>Course Year:</b>	2025

#### Course Description (from CPALMS)

This course introduces concepts, techniques, and processes associated with computer programming and software development.

#### Course Standards

**Note 1:** Citation(s) listed may represent a subset of the instances where objectives are met throughout the course.

**Note 2:** Citation(s) for a "Lesson" refer to the "Lesson Text" elements and associated "Activities" within the course, unless otherwise noted. The "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full

**Note 3:** A few requirements are marked as "See Digital Savvy" and are met by supplemental access to our "Digital Savvy" course.

CTE-IT.912.9007210.1 - Use oral and written communication skills in creating, expressing and interpreting information and ideas.	CITATION(S)
CTE-IT.912.9007210.1.1 - Select and employ appropriate communication concepts and strategies to enhance oral and written communication in the workplace.	Chapter 33, Lessons 1, 2, 3 Suppl. Chapter 1, Lessons 2, 6 Suppl. Chapter 2, Lessons 1, 4
CTE-IT.912.9007210.1.2 - Locate, organize and reference written information from various sources.	Chapter 1, Lesson 4 Chapter 2, Lesson 4 Chapter 19 Activity
CTE-IT.912.9007210.1.3 - Construct writings and/or communications using developmentally appropriate terminology.	Chapter 19 Activity Chapter 33, Lessons 1, 2, 3 Suppl. Chapter 1, Lesson 6 Suppl. Chapter 2, Lessons 1, 4
CTE-IT.912.9007210.1.4 - Analyze the positive and negative impacts of technology on popular culture and personal life.	Suppl. Chapter 3, Lessons 1, 2, 3

CTE-IT.912.9007210.1.5 - Discuss how technology has changed the way people build and manage organizations and how technology impacts personal life.	Chapter 1, Lessons 1, 4, 5 Chapters 19, 26 Suppl. Chapter 3, Lessons 1, 2
CTE-IT.912.9007210.1.6 - Evaluate ways in which adaptive technologies may assist users with special needs.	See Digital Savvy
CTE-IT.912.9007210.1.7 - Explain how societal and economic factors are affected by access to critical	Suppl. Chapter 3, Lesson 2
CTE-IT.912.9007210.1.8 - Discuss the challenges (e.g., political, social, and economic) in providing equal access and distribution of technology in a global society.	Suppl. Chapter 3, Lesson 2

<b>CTE-IT.912.9007210.2 - Explore the characteristics, tasks, work attributes, options, and tools associated with a career in software development.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.2.1 - Explore a variety of careers to which computing is central.	Suppl. Chapter 2, Lesson 2
CTE-IT.912.9007210.2.2 - Discuss the impact of computing on business and commerce (e.g., automated inventory processing, financial transactions, e-commerce, virtualization, and cloud computing).	See Digital Savvy
CTE-IT.912.9007210.2.3 - Evaluate the impacts of irresponsible use of information (e.g., plagiarism and falsification of data) on collaborative projects.	Chapter 1, Lesson 4 Chapter 19, Lesson 3 Suppl. Chapter 3, Lesson 5
CTE-IT.912.9007210.2.4 - Identify tasks performed by programmers.	Chapter 2, Lessons 2, 3, 4 Chapters 12, 26, 33
CTE-IT.912.9007210.2.5 - Describe how businesses use computer programming to solve business problems.	Chapter 1, Lesson 3 Chapter 2, Lesson 1
CTE-IT.912.9007210.2.6 - Investigate job opportunities in the programming field.	Suppl. Chapter 2, Lesson 2
CTE-IT.912.9007210.2.7 - Explain different specializations and the related training in the computer programming field.	Suppl. Chapter 2, Lesson 2
CTE-IT.912.9007210.2.8 - Explain the need for continuing education and training of computer programmers.	Suppl. Chapter 2, Lesson 2
CTE-IT.912.9007210.2.9 - Understand and identify ways to use technology to support lifelong learning.	Chapter 2, Lesson 4 Suppl. Chapter 2, Lessons 2, 3
CTE-IT.912.9007210.2.10 - Explain software as a service (SaaS) and how it impacts business.	Suppl. Chapter 3, Lesson 4
CTE-IT.912.9007210.2.11 - Describe ethical responsibilities of computer programmers.	Chapter 1, Lesson 4 Chapters 19, 26
CTE-IT.912.9007210.2.12 - Identify credentials and certifications that may improve employability for a computer programmer.	Suppl. Chapter 2, Lesson 2
CTE-IT.912.9007210.2.13 - Identify devices, tools, and other environments for which programmers may develop software.	Chapter 1, Lessons 1, 3 Chapter 2, Lesson 1 Chapter 3, Lesson 1

<b>CTE-IT.912.9007210.3 - Demonstrate an understanding of the characteristics, use, and selection of numerical, non-numerical, and logical data types.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.3.1 - Identify the characteristics (e.g., size, limits) and uses of different numerical and non-numerical data types.	Chapter 3, Lessons 1 , 2 Chapter 4, Lesson 3 Chapter 5, Lesson 2 Chapter 8, Lesson 4
CTE-IT.912.9007210.3.2 - Explain the types and uses of variables in programs.	Chapter 3, Lessons 1 , 2 Chapter 5, Lesson 2
CTE-IT.912.9007210.3.3 - Determine the best data type to use for given programming problems.	Chapter 3, Lessons 1 , 2 Chapter 4, Lesson 3 Chapter 5, Lesson 2 Chapter 8, Lesson 4
CTE-IT.912.9007210.3.4 - Compare and contrast simple data structures and their uses.	Chapters 21, 22, 24 Suppl. Chapter 1, Lesson 5
CTE-IT.912.9007210.3.5 - Identify the types of operations that can be performed on different data types (e.g., math operations on numerical data types, concatenation, and other string operations).	Chapter 4, Lesson 1 Chapter 5, Lesson 2 Chapters 7, 8
CTE-IT.912.9007210.3.6 - Evaluate arithmetic and logical expressions using appropriate operator precedence.	Chapter 4, Lessons 1, 2 Chapter 9, Lesson 1 Chapter 10, Lesson 2
CTE-IT.912.9007210.3.7 - Explain how computers store different data types in memory.	Chapter 3, Lesson 1 Chapter 4, Lesson 3 Chapter 5, Lesson 2 Chapter 8, Lesson 4
CTE-IT.912.9007210.3.8 - Demonstrate the difference between "data" and "information".	Chapter 26, Lesson 3
CTE-IT.912.9007210.3.9 - Use different number systems to represent data.	Chapter 8, Lesson 2
CTE-IT.912.9007210.3.10 - Explain how national and international standards (i.e., ASCII, UNICODE) are used to represent non-numerical data.	Chapter 7, Lesson 1 Suppl. Chapter 1, Lesson 1
CTE-IT.912.9007210.3.11 - Use Boolean logic to perform logical operations using Boolean algebra and truth tables.	Chapter 10, Lessons 2, 3

<b>CTE-IT.912.9007210.4 - Distinguish between iterative and non-iterative program control structures.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.4.1 - Identify the uses of non-iterative and iterative programming structures using pseudocode and flowcharts.	Chapter 14, Lessons 1, 2
CTE-IT.912.9007210.4.2 - Create iterative programming structures and their uses.	Chapter 13

CTE-IT.912.9007210.4.3 - Explain how sequence, selection, and iteration are building blocks of algorithms.	Chapter 14, Lesson 1
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<b>CTE-IT.912.9007210.5 - Describe the processes, methods, and conventions for software development and maintenance.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.5.1 - Describe a software development process that is used to solve problems at different software development stages.	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.5.2 - Define alternative methods of program development (e.g., rapid prototyping, waterfall, spiral model, peer coding).	Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.5.3 - List and explain the steps in the program development cycle.	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.5.4 - Describe different types of documentation used in the program development cycle (e.g., requirements document, program design documents, test plans).	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.5.5 - Describe different methods used to facilitate version control.	Suppl. Chapter 2, Lesson 1

<b>CTE-IT.912.9007210.6 - Explain the types, uses, and limitations of testing for ensuring quality control.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.6.1 - Explain the uses and limits of testing in ensuring program quality.	Chapter 12, Lesson 1 Chapter 33, Lesson 3 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.6.2 - Explain testing performed at different stages of the program development cycle (e.g., unit testing, system testing, user acceptance testing).	Chapter 12, Lesson 1 Chapter 33, Lesson 3 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.6.3 - Describe and identify types of programming errors.	Chapter 12, Lesson 1

<b>CTE-IT.912.9007210.7 - Create a program design document using common design tool.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.7.1 - Describe different design methodologies and their uses (e.g., object-oriented design, structured design, rapid application development).	Chapter 5, Lesson 1 Chapter 33, Lesson 1
CTE-IT.912.9007210.7.2 - Describe and use tools for developing a program design (e.g., flowcharts, design documents, pseudocode).	Chapter 14, Lessons 1, 2 Chapter 33, Lessons 1, 2
CTE-IT.912.9007210.7.3 - Explain the role of existing libraries and packages in facilitating programmer productivity.	Chapter 5, Lesson 1 Chapter 8, Lesson 3 Chapter 16, Lessons 1, 2

CTE-IT.912.9007210.7.4 - Participate and contribute to a design review of a program design developed using a common program design tool (e.g., UML, flowcharts, design documents, pseudocode).	Chapter 14, Lessons 1, 2 Chapter 33 Suppl. Chapter 1, Lesson 6
CTE-IT.912.9007210.7.5 - Develop a software artifact (independently and collaboratively) in phases (or stages) according to a common software development methodology (e.g., Waterfall or Spiral model).	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.7.6 - Define input and output for a program module using standard design methodology.	Chapter 33, Lessons 1, 2 Suppl. Chapter 2, Lesson 1

<b>CTE-IT.912.9007210.8 - Solve problems using critical thinking skills, creativity and innovation.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.8.1 - Employ critical thinking skills independently and in teams to solve problems and make decisions.	Chapters 14, 15, 20, 28, 33
CTE-IT.912.9007210.8.2 - Employ critical thinking and collaborative skills to resolve conflicts.	Chapter 33
CTE-IT.912.9007210.8.3 - Identify and document workplace performance goals and monitor progress toward those goals.	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.8.4 - Conduct technical research to gather information necessary for decision-making.	Chapter 26, Lessons 2, 3 Chapter 33, Lessons 1, 2 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.8.5 - Discuss digital tools or resources to use for a real-world task based on their efficiency and effectiveness, individually and collaboratively.	Chapter 19, Lesson 3 Chapter 26, Lesson 3 Chapter 33, Lessons 1, 2, 3 Suppl. Chapter 3, Lesson 4

<b>CTE-IT.912.9007210.9 - Describe the importance of security and privacy information sharing, ownership, licensure and copyright.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.9.1 - Describe security and privacy issues that relate to computer networks including the permanency of data on the Internet, online identity, and privacy.	Chapter 1, Lesson 5 Chapter 26, Lesson 1 Suppl. Chapter 3, Lessons 1, 5
CTE-IT.912.9007210.9.2 - Discuss the impact of government regulation on privacy and security.	Chapter 1, Lessons 4 - 5 Suppl. Chapter 3, Lesson 1
CTE-IT.912.9007210.9.3 - Describe how different types of software licenses (e.g., open source and proprietary licenses) can be used to share and protect intellectual property.	Chapter 1, Lesson 4 Suppl. Chapter 3, Lesson 5
CTE-IT.912.9007210.9.4 - Explain how access to information may not include the right to distribute the information.	Chapter 1, Lesson 4 Suppl. Chapter 3, Lesson 5

CTE-IT.912.9007210.9.5 - Describe differences between open source, freeware, and proprietary software licenses, and how they apply to different types of software.	Chapter 1, Lesson 4 Suppl. Chapter 3, Lesson 5
CTE-IT.912.9007210.9.6 - Discuss security and privacy issues that relate to computer networks.	Chapter 1, Lessons 4 - 5 Chapter 26, Lesson 1 Suppl. Chapter 3, Lesson 1
CTE-IT.912.9007210.9.7 - Identify computer-related laws and analyze their impact on digital privacy, security, intellectual property, network access, contracts, and	Chapter 1, Lessons 4 - 5 Suppl. Chapter 3, Lessons 1, 5

<b>CTE-IT.912.9007210.10 - Create programs that solve a problem using non-iterative and iterative algorithms.</b>	<b>CITATION(S)</b>
CTE-IT.912.9007210.10.1 - Apply the developmental cycle methodologies to create a program.	Chapter 33 Suppl. Chapter 2, Lesson 1
CTE-IT.912.9007210.10.2 - Develop a program using string and/or numeric data types.	Chapters 3, 4, 5, 7, and throughout the course
CTE-IT.912.9007210.10.3 - Develop a program using sequential algorithms.	Chapter 2, Lesson 3 Chapter 14, Lesson 1 and throughout the course
CTE-IT.912.9007210.10.4 - Develop a program using selection structures.	Chapter 9 and subsequently throughout the course
CTE-IT.912.9007210.10.5 - Develop a program using looping structures.	Chapter 13 and subsequently throughout the course

