CompuScholar, Inc.

Alignment to Florida **"Java Programming Essentials"** Course Standards

Florida Course Details:

Course Name:	Java Programming Essentials (2024+)
Course Code(s):	9007240
Credit:	1
State Standards Link:	https://www.cpalms.org/PreviewCourseProgram/Preview/4261

CompuScholar Course Details:

Course Title:	Java Programming
Course ISBN:	978-1-946113-99-3
Course Year:	2025

Course Description (from CPALMS)

This course continues the study of computer programming concepts specific to the Java programming language.

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 details.

Course Standards

CTE-IT.912.9007240.1 - Construct statements that declare, initialize, and modify different types of variables used in Java programs.	**CITATION(S)**
CTE-IT.912.9007240.1.1 - Describe how variables are used in programs.	Chapter 3, Lesson 2
CTE-IT.912.9007240.1.2 - Identify the eight Java primitive data types.	Chapter 3, Lesson 1
CTE-IT.912.9007240.1.3 - Identify the minimum and maximum ranges of primitive data types.	Chapter 3, Lesson 1
CTE-IT.912.9007240.1.4 - Identify which data type should be used for a given situation.	Chapter 3, Lessons 1, 2
CTE-IT.912.9007240.1.5 - Identify the syntax for using variables.	Chapter 3, Lesson 2
CTE-IT.912.9007240.1.6 - Declare and initialize variables.	Chapter 3, Lesson 2
CTE-IT.912.9007240.1.7 - Assign new values to variables.	Chapter 3, Lesson 2

CTE-IT.912.9007240.1.8 - Create and use constant variables.	Chapter 3, Lesson 2

CTE-IT.912.9007240.2 - Describe the types and characteristics of lexical units in the Java programming language.	**CITATION(S)**
CTE-IT.912.9007240.2.1 - Describe the types of lexical units.	Chapter 2, Lesson 3 and as needed elsewhere
CTE-IT.912.9007240.2.2 - Describe identifiers and identify valid and invalid identifiers.	Chapter 2, Lesson 3 and as needed elsewhere
CTE-IT.912.9007240.2.3 - Describe and identify reserved words, delimiters, literals, and comments.	Chapter 2, Lesson 3 and as needed elsewhere

CTE-IT.912.9007240.3 - Describe the data types employed in Java programs.	**CITATION(S)**
CTE-IT.912.9007240.3.1 - Describe the data type categories.	Chapter 3, Lessons 1, 2 Chapter 5, Lesson 2
CTE-IT.912.9007240.3.2 - Give examples of primitives, reference data types.	Chapter 3, Lessons 1, 2 Chapter 5, Lesson 2
CTE-IT.912.9007240.3.3 - Identify and use enumerations.	N/A
CTE-IT.912.9007240.3.4 - Understand the use of Wrapper Classes in programs.	Chapter 8, Lesson 1
CTE-IT.912.9007240.3.5 - Describe the difference between real and integer data types.	Chapter 3, Lessons 1, 2 Chapter 4, Lesson 1 Chapter 8, Lessons 2, 4

CTE-IT.912.9007240.4 - Construct Java statements that employ the use of various operators.	**CITATION(S)**
CTE-IT.912.9007240.4.1 - Construct statements using arithmetic operators.	Chapter 4, Lesson 1
CTE-IT.912.9007240.4.2 - Construct statements using relational operators.	Chapter 9
CTE-IT.912.9007240.4.3 - Construct and use statements using logical operators.	Chapter 10, Lessons 2, 3
CTE-IT.912.9007240.4.4 - Construct and use statements using assignment operators.	Chapter 3, Lesson 2 and throughout the course
CTE-IT.912.9007240.4.5 - Construct and execute statements using operator precedence.	Chapter 4, Lesson 1 Chapter 10, Lesson 2

CTE-IT.912.9007240.5 - Write executable statements using Java.	**CITATION(S)**
CTE-IT.912.9007240.5.1 - Construct variable assignment statements.	Chapter 3, Lesson 2 and throughout the course
CTE-IT.912.9007240.5.2 - Construct statements using built-in Math functions.	Chapter 8, Lesson 3

CTE-IT.912.9007240.5.3 - Differentiate between implicit and explicit data type conversions.	Chapter 4, Lesson 3 Chapter 8, Lesson 4
CTE-IT.912.9007240.5.4 - Describe when implicit data type conversions take place.	Chapter 4, Lesson 3 Chapter 8, Lesson 4
CTE-IT.912.9007240.5.5 - List the drawbacks of implicit data type conversions.	Chapter 4, Lesson 3 Chapter 8, Lesson 4
CTE-IT.912.9007240.5.6 - Describe the process of autoboxing and promotion.	Chapter 4, Lesson 3 Chapter 8, Lesson 4
CTE-IT.912.9007240.5.7 - Construct statements using functions to explicitly convert data types.	Chapter 4, Lesson 3 Chapter 8, Lesson 4

CTE-IT.912.9007240.6 - Describe variable scope and its implications in Java programming.	**CITATION(S)**
CTE-IT.912.9007240.6.1 - Understand the scope and visibility of variables.	Chapter 16, Lesson 3 Chapter 17, lesson 2
CTE-IT.912.9007240.6.2 - Write programs using local variables.	Chapter 3 and throughout the course
CTE-IT.912.9007240.6.3 - Describe the scope of a variable.	Chapter 16, Lesson 3 Chapter 17, lesson 2
CTE-IT.912.9007240.6.4 - Describe the default value of local, instance, and static scope of variables.	Chapter 16, Lesson 4 Chapter 18, Lesson 1
CTE-IT.912.9007240.6.5 - Describe how compiler uses scope to identify variables with the same name.	Chapter 18, Lesson 3

CTE-IT.912.9007240.7 - Apply common Java programming style guidelines and conventions.	**CITATION(S)**
CTE-IT.912.9007240.7.1 - List examples of good programming practices.	Chapter 2, Lesson 3 Chapter 3, Lesson 2 Chapter 5, Lesson 4
CTE-IT.912.9007240.7.2 - Insert comments into code.	Chapter 2, Lesson 3 Chapter 5, Lesson 4
CTE-IT.912.9007240.7.3 - Follow formatting guidelines when writing code.	Chapter 2, Lesson 3 Chapter 3, Lesson 2 Chapter 5, Lesson 4
CTE-IT.912.9007240.7.4 - Understand the different types of errors produced by programs.	Chapter 11, Lesson 1 Chapter 12, Lesson 1

CTE-IT.912.9007240.8 - Demonstrate use of the compiler and interpreter through command line interface.	**CITATION(S)**
CTE-IT.912.9007240.8.1 - Describe the use of the Java compiler (javac) and Java interpreter (Java VM).	Chapter 2, Lesson 2 Chapter 34, Lesson 3
CTE-IT.912.9007240.8.2 - Demonstrate the use of the - classpath flag and –d flag to the compiler.	N/A (Students do not usually have command-line access)
CTE-IT.912.9007240.8.3 - Identify the environmental variables of PATH and CLASSPATH.	N/A (Students do not usually have command-line access)

CTE-IT.912.9007240.8.4 - Describe the process of command line arguments to the program.	N/A (Students do not usually have command-line access)
CTE-IT.912.9007240.8.5 - Create programs that take in multiple command line arguments.	N/A (Students do not usually have command-line access)

CTE-IT.912.9007240.9 - Construct conditional control statements in Java.	**CITATION(S)**
CTE-IT.912.9007240.9.1 - Construct and use an if statement.	Chapter 9, Lesson 2
CTE-IT.912.9007240.9.2 - Construct and use a switch statement.	Chapter 9, Lesson 4
CTE-IT.912.9007240.9.3 - Construct and use a while, do while, and for loop.	Chapter 13, Lessons 1, 2
CTE-IT.912.9007240.9.4 - Construct and use a conditional operator.	Chapter 10, Lesson 2

CTE-IT.912.9007240.10 - Construct iterative control statements in Java.	**CITATION(S)**
CTE-IT.912.9007240.10.1 - Describe the types of loop statements and their uses.	Chapter 13, Lessons 1, 2
CTE-IT.912.9007240.10.2 - Construct and use the while and do while loop.	Chapter 13, Lesson 2
CTE-IT.912.9007240.10.3 - Construct and use the for loop.	Chapter 13, Lesson 1
CTE-IT.912.9007240.10.4 - Construct and use the enhanced for loop.	Chapter 21, Lesson 3
CTE-IT.912.9007240.10.5 - Describe when a while loop is used.	Chapter 13, Lesson 2
CTE-IT.912.9007240.10.6 - Describe when a for loop is used.	Chapter 13, Lesson 1 Chapter 21, Lesson 2

CTE-IT.912.9007240.11 - Use nested loop iterative control statements in Java.	**CITATION(S)**
CTE-IT.912.9007240.11.1 - Construct and execute a program using nested loops.	Chapter 13, Lesson 4
CTE-IT.912.9007240.11.2 - Construct and execute a loop using break and continue.	Chapter 13, Lesson 3
CTE-IT.912.9007240.11.3 - Evaluate a nested loop construct and sentinel value.	Chapter 13, Lesson 4

CTE-IT.912.9007240.12 - Produce input and output for Java programs.	**CITATION(S)**
CTE-IT.912.9007240.12.1 - Describe and use classes (e.g., Scanner, System) to input data into programs.	Chapter 6, Lesson 3

CTE-IT.912.9007240.12.2 - Demonstrate the use of different ways to input data into programs using Scanner or System class.	Chapter 6, Lesson 3
CTE-IT.912.9007240.12.3 - Describe and demonstrate the use of the System class to produce output to the console.	Chapter 3 Lesson 3
CTE-IT.912.9007240.12.4 - Explain the difference between print and println functions in the System class.	Chapter 3 Lesson 3
CTE-IT.912.9007240.12.5 - Create and use escape sequences.	Chapter 3 Lesson 3

CTE-IT.912.9007240.13 - Use packages and import statements in a Java program.	**CITATION(S)**
CTE-IT.912.9007240.13.1 - Describe the use of import statements.	Chapter 6, Lesson 3 Chapter 16, Lesson 2
CTE-IT.912.9007240.13.2 - Describe the use of packages.	Chapter 6, Lesson 3 Chapter 16, Lesson 2
CTE-IT.912.9007240.13.3 - Create code that uses package statements to avoid class conflict.	Chapter 6, Lesson 3 Chapter 16, Lesson 2
CTE-IT.912.9007240.13.4 - Create packages that abide by standard Java naming convention.	Chapter 16, Lesson 2
CTE-IT.912.9007240.13.5 - Demonstrate the use of Java-API to search for classes and packages.	Chapter 2, Lesson 4

CTE-IT.912.9007240.14 - Create a Java program that uses methods.	**CITATION(S)**
CTE-IT.912.9007240.14.1 - Differentiate between anonymous blocks and methods.	N/A
CTE-IT.912.9007240.14.2 - Identify the benefits of using methods.	Chapter 5, Lesson 3 Chapter 16, Lesson 5 Chapter 17
CTE-IT.912.9007240.14.3 - Describe a method signature.	Chapter 5, Lesson 3
CTE-IT.912.9007240.14.4 - Create a method.	Chapter 16, Lessons 4, 5 Chapter 17
CTE-IT.912.9007240.14.5 - Describe how a method is invoked.	Chapter 5, Lesson 3 Chapter 6, Lessons 1, 2 Chapter 16, Lesson 5
CTE-IT.912.9007240.14.6 - Describe the purpose of overloading methods.	Chapter 6, Lesson 2 Chapter 17, Lesson 4
CTE-IT.912.9007240.14.7 - Create overloaded methods in programs.	Chapter 17, Lesson 4

CTE-IT.912.9007240.15 - Create a Java program that uses parameters in methods.	CITATION(S)
CTE-IT.912.9007240.15.1 - Describe how parameters are passed into functions.	Chapter 5, Lesson 3 Chapter 6, Lessons 1, 2 Chapter 16, Lesson 5
CTE-IT.912.9007240.15.2 - Define a parameter.	Chapter 5, Lesson 3 Chapter 16, Lesson 5
CTE-IT.912.9007240.15.3 - Create a method using a parameter.	Chapter 16, Lesson 5
CTE-IT.912.9007240.15.4 - Invoke a method that has parameters.	Chapter 5, Lesson 3 Chapter 6, Lessons 1, 2 Chapter 16, Lesson 5
CTE-IT.912.9007240.15.5 - Distinguish between formal and actual parameters.	Chapter 5, Lesson 3 Chapter 16, Lesson 5
CTE-IT.912.9007240.15.6 - Demonstrate the use of reference parameters in methods.	Chapter 16, Lesson 4, 5

CTE-IT.912.9007240.16 - Describe and use recursion in a Java program.	CITATION(S)
CTE-IT.912.9007240.16.1 - Describe the use of recursion in solving problems.	Chapter 27, Lesson 1
CTE-IT.912.9007240.16.2 - Describe the difference of iterative and recursive methods.	Chapter 27, Lesson 1
CTE-IT.912.9007240.16.3 - Demonstrate the use of direct recursion.	Chapter 27, Lesson 1
CTE-IT.912.9007240.16.4 - Demonstrate the use of indirect recursion.	N/A

CTE-IT.912.9007240.17 - Construct Java statements that use the String class to manipulate String data.	CITATION(S)
CTE-IT.912.9007240.17.1 - Explain the use of the String class.	Chapter 5, Lesson 2 Chapter 7
CTE-IT.912.9007240.17.2 - Create code to concatenate strings using the concatenation operator.	Chapter 5, Lesson 2
CTE-IT.912.9007240.17.3 - Demonstrate how to search a string using indexOf method of the String class.	Chapter 7, Lesson 2
CTE-IT.912.9007240.17.4 - Explain the effect of immutability of Strings.	Chapter 7, Lesson 2
CTE-IT.912.9007240.17.5 - Create Strings using string literals, and through new keyword.	Chapter 5, Lesson 2
CTE-IT.912.9007240.17.6 - Demonstrate the use of the following string manipulation methods of the String class: charAt, length ,trim, substring, replace, startsWidth and endsWith.	Chapter 7, Lesson 2