

# Intro to Java

## Course Syllabus and Lesson Planner

### Description:

In this course there are six modules teaching students an Introduction to Java. This course assumes the students has some experience with coding a real computer language as it moves quicker through basic computer logic. Students will create multiple programs start to finish throughout the course using the IDE Eclipse.

### Course Prerequisites (if applicable):

A previous coding course in any computer language including: JavaScript, Python, C#, C++, Ruby or any other object oriented computer language.

### Course Requirements:

**Computer** – Students must have access to a computer with internet access and an internet browser. The Computer may run Windows or Mac OS, no chromebooks.

### Course Grading:

Grading will be based on quizzes, project uploads, and teacher requirements.

**Lesson Plan:** Each individual lesson is made up of multiple lesson pages to teach a coding concept with text and visuals, provide in lesson practice and a step by step activity for student to add newly learned code to their existing game file.

Module 1 – Intro to Java	SKILLS
1.1 – Getting Started in Java	Why Java is useful and where it is used
Getting Started in Java Quiz	
1.2 – Eclipse	Learning about the User Interface of Eclipse
Eclipse Quiz	
1.3 – Print Statements	Printing statements to the console, reading errors
Print Statements Quiz	
1.4 – Primitive Data Types	Why primitive data types exist and what are they
Primitive Data Types Quiz	
1.5 – Short, Int and Long	Practice using these primitive data types

Short, Int and Long Quiz	
1.6 – Float, Double, Char & Boolean	Practice using these primitive data types
Float, Double, Char & Boolean Quiz	
<b>Module 2 – Input and Output</b>	
2.1 – User Input	Imports using the Scanner class
User Input Quiz	
2.2 – Mad Lib	Coding your own Mad Lib using User input and printing multiple lines to the console
<b>Mad Lib Assignment Upload</b>	
2.3 – Global Variables	Using variables accessed by multiple Java methods
Global Variables Quiz	
2.4 – Rock Paper Scissors	If statements with conditions, practice using various operators
Rock Paper Scissors Quiz	
2.5 – Fizz Buzz	Modulus and more practice with if statement logic
<b>Fizz Buzz Assignment Upload</b>	
<b>Module 3 - Stick Game Player vs Computer</b>	
3.1 – Methods	Calling methods within a class
Methods Quiz	
3.2 – Do While	Do while loop for continually running code until conditions become false
Do While Quiz	
<b>Guess My Number Assignment Upload</b>	
3.3 – Stick Game	While loop and coding player logic
Stick Game Quiz	
3.4 – Computers Turn	Using random numbers and if statement

	conditions for computer's turn logic
Computers Turn Quiz	
<b>Stick Game Assignment Upload</b>	
<b>Module 4 – Battleship</b>	
4.1 – Card Shuffler	Practice with Arrays and using multiple dimensional arrays
Card Shuffler Quiz	
4.2 – Shuffle and Deal	Removing items from an array and displaying the remaining items
Shuffle and Deal Quiz	
4.3 – Battleship	Creating a grid with arrays
Battleship Quiz	
4.4 – Ships and Fire	Case switch statements for logic of where ships can be placed in grid. Keeping track of variable values and game progresses
<b>Battleship Assignment Upload</b>	
<b>Module 5 – Tic Tac Toe</b>	
5.1 – Tic Tac Toe	User Interface using Swing
Tic Tac Toe Quiz	
5.2 – X & O	Displaying Images and controlling the grid
X & O Quiz	
5.3 – Action	Action events triggering methods when grid squares are clicked
Action Quiz	
<b>Tic Tac Toe Assignment Upload</b>	
<b>Module 6 – Picture Puzzle</b>	
6.1 – Picture Puzzle	User Interface using Swing
Picture Puzzle Quiz	

6.2 – Switching Pieces	Logic of switching piece placement with two clicks
Switching Pieces Quiz	
6.3 – Win and Slice	Create winning arrangement checking after each move to see if puzzle is complete.
<b>Picture Puzzler Assignment Upload</b>	
<b>Semester Exam</b>	