With the Java2 for Programmers training course anyone with some previous programming experience can discover the power of developing applications with Java2. Expert Wayne Snyder teaches you key Java2 techniques like exception handling, use of classes, and the Advanced Windowing Tool Kit. At the conclusion of this course you will understand object-oriented programming techniques, know how to write client-based GUI programs using Java2, and be prepared for Sun exam #310-025.

Prerequisites: Previous programming experience helpful.

Session 1

Section A: Java Fundamentals
· What is Java?
· Create a Java Program
· Java Packages
· Simple Class
· Impact Packages
· Class Definition
· Class Statement
· Reserved Words
Section B: Data Types & Literals
· Identifier
· Primitive Data Types
· Literals
· Character Literals
Section C: Variables
· Declaring a Variable
· Method Variables
· Initialize Variables
· Literals
· Class Data Type Variables
Section D: Wrapper Classes
· String Wrapper Class
· Methods
· Strings
· How Strings Work
· Unsupported Operations
· Limitations
Section E: Arrays
· Declaring
· Create
· Initializing
· Initialize with Code
· Create Issues
· Initialize Issues
· Main Method
· Arguments

Session 2

Section A: Arithmetic Operators
· Basics
· Widening
· Cast
· Assignment Operator
· Conversions Issues
· Operators
· NaN
· Comparison Operators
· Object Problems

· Equals ( ) Method
Section B: Logical Operators
· Optimized Logical
· Logical with Assignment
· Bitwise Operators
· Bitwise OR/XOR
· Bitwise Shift
· Evaluating Numbers
· Bit Shift Integer
· Bitwise with Assignment
Section C: Control of Flow
· Getting Started
· Nested If
· Switch-Case
· Using Case
· For Loop
· Nested for Loop
· Break & Continue
· Various for Loops
· Multiple Assignments
· While Loop
· Do Loop
· Do vs. While Loops
· Control of Flow Hints
Section D: Classes & Instances
· Objects & Classes
· Instance/Static Variables
· Reference Variable
· Class Modifiers
· Class Body
· Fields
· Class Structure
· Create an Instance
· Using Static Variables

Session 3

Section A: More Class Member Modifiers
· Reference Variables
· Destroying Objects
· Final Fields & Object Reference
· Variable Initialization
· Garbage Collection
Section B: Methods
· Arguments
· Object Reference
· Method Modifiers/Local Variables
· Using Variables
· Finalize Method
Section C: Object-Oriented Concepts
· Abstraction
· Encapsulation
· Inheritance
· Class Hierarchy
· Instanceof
· Widening Conversions
· Narrowing Conversions
Section D: More Object-Oriented Concepts
· Overloading a Method

· Avoid Overloading
· Overriding Methods
· Call Parent Method
· Overloading vs. Overriding
Section E: Constructors
· Using Constructors
· Using This ( ) Statement
· Troubleshoot Constructors
· Derived Class Constructors
· Default Constructors
Section F: Nested Classes
· Abilities of Nested Classes
· Using Nested Classes
· Static Nested Class
· Instance/Inner Nested Class
· Using Instance Nested Class
· Anonymous Inner Class
· Understanding Nested Classes
Section G: Interfaces & Abstract Classes
· Abstract Classes
· Interface
· Understanding Interface/Abstract

Session 4

Section A: Exceptions
· Handling Exceptions
· Try/Catch
· Handle & Re-Throw
· Custom Exceptions
· Overriding
Section B: Threads
· Non-Threaded Applications
· Threaded Application
· Thread States
· Thread Priority
· Blocked-Waiting/Blocking IO
· Runnable Interface
· Starting Threads
Section C: Thread Synchronization
· Deadlocks
· Synchronization
· Lock Checking
· Method Synchronization
· Thread Communication
· Using Thread Synchronization
Section D: The java.lang Package
· Class Math
· Functions
· Trig Functions
· Round, Random
Section E: The java.io Package
· File Class
· Using java.io
· Working with File Object
· Streams Overview
· Input & Output Streams
· Using Streams
· File Filters
· Data Input Stream

· Buffered Stream
· Using Data Output Streams
· Print Stream Class
· Input Stream Reader/Output Stream Writer
· Random Access File Class
Section F: The java.util Package
· Arrays Class/Comparator Interface
· Abstract Classes
· Collection Interface
· Concrete Classes/Collection Class
· Vectors/Stack Class
· Hashtable Object
· Enumeration Interface
· Collections API Interfaces
· Iterator Interface

Session 5

Section A: AWT Components
· Components
· Component Class &
Appearance
· Component Position
· Enable & Visible
· Text Classes
· Container Class & Method
· Kinds of Containers Windows
· Container Hierarchy
· Working with GUI
· Menu Container
· Create a Menu
· Text Box
Section B: AWT Layout Managers
· Layout Concerns
· Layout Managers vs. Containers
· Defaults for AWT Layouts
· Border Layout Manager
· Flow Layout
· Left/Right Justify Layout
· Grid Layout
· Card Layout
· Action Listener
· Card Sample
· Grid Bag Layout
· Grid Bag Constraints
Section C: AWT Events
· Event Model
· Event Hierarchy
· Adjustment Event
· Component Events/Semantic Events
· Captures Events/Process Event
· Listeners
· Adapters
· Action Event
· Using Action Listener
· Separate Class
· Implementation
· Adding Lists
· Text Event Class

Section D: AWT Component Events
· Focus Event Class
· Input Event Methods
· Key Event Class
· Mouse Events
· Mouse Motion Listener Interface
· Using Mouse Events
· Window Event Class
· Web Resources