

Java SE7

1Z0-803 OR 1Z0-804

Course Syllabus

26.75 Hours

Course Description

Java SE 7 is the most widely used development language in the world today. It allows programmers to create objects that can interact with other objects to solve a problem. Java SE 7 teaches students with little or no programming experience to begin to learn programming using the Java programming language. It explores the significance of object-oriented programming, the keywords and constructs of the Java programming language and the steps required to create simple Java technology programs. This course covers the objectives for the certification exam:

- **Java SE 7 Programmer I: 1Z0-803**
OR
- **Java SE 7 Programmer II: 1Z0-804** (if already SE 7 Programmer I certified)

Learning Objectives

Upon completion of the course, students will understand:

- Object-oriented analysis, identifying problem domains and objects, defining criteria for recognizing objects, attributes, and operations, and designing and modeling a class
- Defining a class, identifying class components, using variables, using a main method, identifying keywords, testing and executing a simple Java program, common causes of syntax errors, and the purpose and features of an IDE debugger
- Uses of variables and defining a variable's syntax, primitive data types, declaring, initializing, and using variables and constants, modifying variable values by using operators, and using promotion and type casting
- Relational and conditional operators, creating if and if/else constructs, chaining an if/else statement, and using a switch statement
- Accessing command-line arguments, working with two-dimensional arrays and ArrayList, creating a while loop, developing a for loop, nesting a for and while loop, using an array in a for loop, coding and nesting a do/while loop, and comparing loop constructs
- Designing general purpose base classes using abstract classes, constructing abstract java classes and subclasses, modeling business problems using the static and final keywords, implementing the Singleton design pattern, and distinguishing between top-level and nested classes
- Layout of the JDBC API, connecting to a database by using a JDBC driver, submitting queries and getting results from the database, specifying JDBC driver information externally, using transactions with JDBC, using the JDBC 4.1 RowSetProvider and RowSetFactory, and using a DAO pattern to decouple data and business methods
- Best practices for writing high quality methods, expressions, variables, arrays, loops, and if statements, describing recommended practices for writing readable code and outlining the primary techniques of refactoring, reviewing, testing, and debugging code

Course Format

Java SE 7 is a self-paced, online course delivered through the learning management system Skillsoft. The site to access the coursework is su.skillport.com. Login credentials will be provided to you on the cohort launch date. If you do not receive them by the launch date, please check your Spam/Junk folder of your email and/or contact your advisor or O2O program coordinator. Once you have logged into your account, you can locate the coursework by selecting "View My Learning Plan."

Coursework is delivered through videos, tutorials, and tests. No textbooks are required for the course; however, students are encouraged to utilize additional resources to assist with certification preparation. Resource Guides with

lists of supplemental study materials for each certification are available at <http://libguide.get-vet.syr.edu/curriculum/>.

Course Completion Requirements

Java SE 7 coursework is due within 90 days from the assignment date. The course hours listed at the top of the syllabus reflect the time it would take to click through the slides and do not account for taking notes or the end of module tests. You must complete all five modules in Topic 1, all three modules in Topic 2, and all four modules in Topic 3. Successful completion of a module is marked after you review the lesson videos and score 80% or higher on the end of module tests.

At the beginning of a module, you will be asked to take a pre-test. Scoring 80% or higher on the pre-test signifies competence in the information that will be covered; you will therefore be waived from completing the module. A non-credit certificate of completion will be awarded for successful completion of the coursework.

Industry Certification Requirements

In order for the program to fund your Java SE 7 certification exam you will need to meet the Java SE 7 practice exam requirements. Your advisor or O2O program coordinator will provide you with access to the practice exam as well as completion instructions once you have finished the coursework.

Support

- For technical support, please contact Skillssoft Support at support.skillssoft.com
- For course content support, please utilize Skillssoft's "Ask My Mentor" tool, located in the left-hand Menu within the module course player
- For program support or questions, please contact your advisor or O2O program coordinator

Course Outline

Topic 1: Java SE7 Fundamentals

- 1.1 Java SE7 Fundamentals: Introduction to Java
- 1.2 Java SE7 Fundamentals: Variables, Operators, and Objects
- 1.3 Java SE7 Fundamentals: Decision Constructs, Arrays, and Loops
- 1.4 Java SE7 Fundamentals: Overloading, Validation, and Object-Oriented Concepts
- 1.5 Handling Errors and Deploying Applications

Topic 2: Java SE7 Professional

- 2.1 Java SE7 Professional: Syntax and Class Design
- 2.2 Java SE7 Professional: Generics, Errors, and I/O
- 2.3 Java SE7 Professional: File I/O, Concurrency, JDBC, and Localization

Topic 3: Object-Oriented Coding Best Practices

- 3.1 General Coding Best Practices
- 3.2 Object-oriented Coding Best Practices
- 3.3 Programming Techniques and Strategies
- 3.4 Maintaining Quality Code