Hello, and welcome!

When was the last time you didn’t rely on a computer program in your everyday life? It’s probably difficult to recall. They are used in almost everything we touch. You use an app for work on your laptop. Or you play a new video game on your smartphone or tablet. You shop for a new pair of jeans on Amazon. And at the end of the day, you unwind by watching your favorite show on Netflix. All of these activities rely on powerful computer programming—like Java. Since Java was created, it has evolved to power a large portion of the digital world we depend on. And many revolutionary products and services still to come will rely on it, too.

We invite you to take a minute to learn about the course by reviewing the following information. This way, you will be better able to understand the expectations of the course as a whole. Then you can determine how to manage your time and efforts as you navigate through it.

You are in the right place. You belong here. You can do this!
Course Description and Competencies

What to Expect

In this course, you will examine the fundamental principles of Java programming. You will create and call methods. You will design Java classes and other object-oriented principles and constructs. This will allow you to develop software that meets basic business requirements. And you also will gain an understanding of the logic and outcome of simple algorithms.

Java Fundamentals requires a basic knowledge of programming. This includes an understanding of variables, type, program flow, and debugging.

Throughout this course, you will find a variety of interactive elements. These include an interactive textbook, participation activities, and labs. Engaging with these activities reinforces new learning. It also complements the knowledge you bring to this area of study.

The objective assessment allows you to demonstrate two core competencies from the course. You will have two attempts to pass the exam.

- 1 final assessment  • 3 competency units

This course covers the following competencies:

1. The learner creates object-oriented programs.
2. The learner creates methods in Java.
## Course Outline

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<tr>
<th>Units</th>
<th>Upon completion of this unit, you will be able to:</th>
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| **Introduction**       | A. Define what a computer program is and what it does  
B. Describe the basic components of a Java program  
C. Explain basic Java syntax  
D. Describe the components that make up a typical computer                                                                                                                   |
| **Variables & Assignments** | A. Implement variables and assignment statements  
B. Follow identifier naming conventions  
C. Evaluate expressions  
D. Read application programming interface (API) documentation and style guidelines  
E. Describe the debugging process                                                                                                                                                  |
| **Branches**           | A. Implement *if-else* statements  
B. Use logical operators to detect ranges  
C. Evaluate expressions using precedence rules  
D. Use *switch* statements  
E. Implement *Boolean* data types  
F. Perform operations on strings and characters                                                                                                                                 |
| **Loops**              | A. Implement a loop  
B. Explain an infinite loop  
C. Compare *while* loops, *for* loops, and *do* loops  
D. Describe nested loops  
E. Explain how to develop programs incrementally                                                                                                                                 |
| **Arrays**             | A. Define an array  
B. Describe an array index  
C. Describe a two-dimensional array  
D. Iterate through an array                                                                                                                                                           |
Methods

A. Define a Java method
B. Call and write a Java method
C. Explain the role of methods in unit testing
D. Explain how a method works
E. Describe Java documentation for methods

Objects and Classes

A. Define Java objects and classes
B. Implement a Java class
C. Explain reference types and wrapper classes
D. Describe Java documentation for classes
E. Explain how to use Java packages

Inheritance

A. Explain the concept of inheritance in Java
B. Implement derived classes in Java
C. Explain the purpose of the Object class
D. Describe an abstract class
E. Explain the Unified Modeling Language (UML)

Technology Requirements

We want to be sure you have the tools to succeed! Since this course includes at least one proctored test, please be sure to have a working microphone, speakers, and an external webcam. Unfortunately, an internal webcam (built into many laptops) is not acceptable. For other details about the technology you’ll need, review the Computer System and Technology Requirements to learn about the technology you’ll need. If you have questions about your setup, contact support@academy.wgu.edu.

Key Contacts

Your Fellow Learners

Check out the Java Fundamentals Lobby in the course site! In this online community, you can ask questions and explore ideas. You can connect with your fellow learners. When you use this site, you will realize that other learners may have the same questions you have. You can all benefit from learning together!
If you need academic support, don’t hesitate to contact Tutor.com. There, you have access to thousands of tutors. And they are available 24/7 from any internet-ready device. You can also benefit from instructional videos, study tools, and other assistance.

If you encounter technical issues, be sure to contact the Help Desk. Just submit a Support Request for assistance.

Do you have questions about your account? Our Academy Support Team has answers. They can help with billing, switching courses, and other requests. You can contact them at (888) 320-0540 or support@academy.wgu.edu.

Accommodations

WGU Academy provides compliant and accessible learning experiences. If you require accommodation, please contact us at the start of the course. You can email StudentAffairs@academy.wgu.edu or call (888) 320-0540. We are committed to ensuring that all students with disabilities have equal access to WGU Academy’s services and materials. We strive to use best practices for accessibility. Our goal is to conform to existing U.S. laws. These include the Americans with Disabilities Act and Section 504 and Section 508 of the Rehabilitation Act. Our learning management system (LMS) platform is Open edX. Open edX’s commitment to accessible content is published on their Website Accessibility Policy.