



Java Programming

An Introduction to Software

Course Syllabus

Course Description

In this course, students will learn the fundamentals of software development, focusing on a beginner-level introduction to rigorous problem-solving approaches while still embracing and extending traditional methods of computer science and software engineering. You'll explore foundational concepts such as algorithm development, data representation, and debugging, using common tools such as HTML/CSS, Javascript, and Java.

Corresponds with: Coursera Content Dated

Beginner Specialization: No experience needed

Commitment: 4 weeks, 3-7 hours per week

Subtitles: English

Learning Objectives

Upon completion of the course, students will understand:

- How to write JavaScript programs using functions, for loops, and conditional statements
- Use HTML to create a web page with text, divs, images, lists, and links
- Add styles to a web page using CSS
- Create a class with multiple methods that solve problems
- Debug a Java program using the scientific method
- Use iterables and collections, including maps, in Java
- Implement programming solutions using multiple approaches and recognize tradeoffs

Course Format

Java Programming – An Introduction to Software is a self-paced, online course delivered through the website Coursera. The site to access the coursework is coursera.org. Coursework is delivered through videos, tutorials, and assignments. No textbooks are required for the course. Coursework is provided through Duke University, and there are 20 hours of video with approximately 22 assignment hours in this course, as well as 34 quizzes and 5 peer-reviewed assignments.

Course Completion Requirements

Java Programming – An Introduction to Software 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 within the course.

Support

- For Technical support, contact: <https://learner.coursera.help/hc/en-us>
- For course content-related support, contact: <https://www.coursera.org/about/contact>
- For program support, please contact your IVMF advisor or O2O Installation Coordinator

Course Outline

Topic 1: Java Programming – An Introduction to Software

- 1.1 Programming Foundations with JavaScript, HTML, and CSS
- 1.2 Java Programming: Solving Problems with Software
- 1.3 Java Programming: Arrays, Lists, and Structured Data
- 1.4 Java Programming: Principles of Software Design



1.5 Java Programming: Build a Recommendation System