

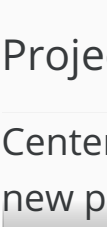
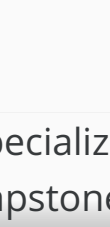
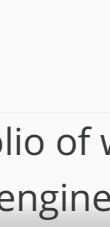
# Java Programming and Software Engineering Fundamentals Specialization

Explore a Career as a Software Engineer. Learn the basics of programming and software development

## About This Specialization

Take your first step towards a career in software development with this introduction to Java—one of the most in-demand programming languages and the foundation of the Android operating system. Designed for beginners, this Specialization will teach you core programming concepts and equip you to write programs to solve complex problems. In addition, you will gain the foundational skills a software engineer needs to solve real-world problems, from designing algorithms to testing and debugging your programs.

Created by: **Duke** UNIVERSITY

- **5 courses**  
Follow the suggested order or choose your own.
- **Projects**  
Designed to help you practice and apply the skills you learn.
- **Certificates**  
Highlight your new skills on your resume or LinkedIn.

## Projects Overview

Centered around projects, this Specialization will help you create a portfolio of work to demonstrate your new programming skills. In the capstone you will create a recommender engine similar to those used by Netflix or Amazon. Additional projects in your portfolio will include:an interactive webpage that applies

[▼More](#)

## Courses

 **Beginner Specialization.** No prior experience required.

### COURSE 1

## Programming Foundations with JavaScript, HTML and CSS

Upcoming session: Feb 5

**Commitment** 4 weeks of study, 3-7 hours/week

**Subtitles** English

### About the Course

Learn foundational programming concepts (e.g., functions, for loops, conditional statements) and how to solve problems like a programmer. In addition, learn basic web development as you build web pages using HTML, CSS, JavaScript. By the en... [more](#)

**You can choose to take this course only.** [Learn more.](#)

### COURSE 2

## Java Programming: Solving Problems with Software

Upcoming session: Feb 5

**Commitment** 4 weeks of study, 4-8 hours/week

**Subtitles** English, Turkish

### About the Course

Learn to code in Java and improve your programming and problem-solving skills. You will learn to design algorithms as well as develop and debug programs. Using custom open-source classes, you will write programs that access and transform images, w... [more](#)

**You can choose to take this course only.** [Learn more.](#)

### COURSE 3

## Java Programming: Arrays, Lists, and Structured Data

Upcoming session: Feb 5

**Commitment** 4 weeks of study, 4-8 hours/week

**Subtitles** English

### About the Course

Build on the software engineering skills you learned in "Java Programming: Solving Problems with Software" by learning new data structures. Use these data structures to build more complex programs that use Java's object-oriented features. At the en... [more](#)

**You can choose to take this course only.** [Learn more.](#)

### COURSE 4

## Java Programming: Principles of Software Design

Current session: Jan 29

**Commitment** 4 weeks of study, 4-8 hours/week

**Subtitles** English

### About the Course

Solve real world problems with Java using multiple classes. Learn how to create programming solutions that scale using Java interfaces. Recognize that software engineering is more than writing code - it also involves logical thinking and de... [more](#)

**You can choose to take this course only.** [Learn more.](#)

### COURSE 5

## Java Design Patterns and Data Structures

Current session: Jan 29

**Commitment** 4 weeks of study, 3-6 hours/week

**Subtitles** English

### About the Capstone Project

Ever wonder how Netflix decides what movies to recommend for you? Or how Amazon recommends books? We can get a feel for how it works by building a simplified recommender of our own!


In this capstone, you will show off your problem sol... [more](#)

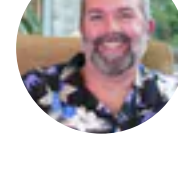
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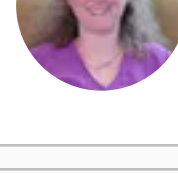
## Creators

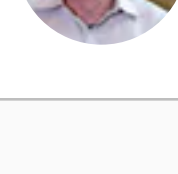
Duke University is consistently ranked as both a top undergraduate and research institution, with world class faculty at all levels in undergraduate, graduate, and professional schools.

Duke University has about 13,000 undergraduate and graduate students and a world-class faculty helping to expand the frontiers of knowledge. The university has a strong commitment to applying knowledge in service to society, both near its North Carolina campus and around the world.

 **Andrew D. Hilton**  
Assistant Professor of the Practice

 **Robert Duvall**  
Lecturer

 **Susan H. Rodger**  
Professor of the Practice

 **Owen Astrachan**  
Professor of the Practice

## FAQs

- What is the Capstone Project?
- What is the refund policy?
- Can I just enroll in a single course? I'm not interested in the entire Specialization.
- How long does it take to complete the Java Programming and Software Engineering Fundamentals?
- How often is each course in the Specialization offered?
- What background knowledge is necessary?
- Do I need to take the courses in a specific order?
- Will I earn university credit for completing the Java Programming and Software Engineering Fundamentals?
- What will I be able to do upon completing the Java Programming and Software Engineering Fundamentals?
- What software or equipment will I need to complete the assignments?
- Can I view the course materials for free?
- How is Google involved in content creation and teaching for this Specialization?

More questions? Visit the [Learner Help Center](#).

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Starts Feb. 05

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