Welcome Video

Video 1. Introduction to the Course

This is Duke University. >> Hi I'm Drew and my colleagues and I would like to welcome you to Java Programming, Solving Problems with Software. We here at Duke are so excited that you're taking this first step in learning to solve real problems using Java. In this course, you will learn a seven-step process designed to help you understand how to approach any programming problem. You'll use this process to solve real problems and you'll learn that computer science is so much more than the syntax of a programming language like Java. You'll have a chance to work on problems such as analyzing DNA, manipulating CSV files and processing images. These are real problems that engineers, scientists, programmers, and others work on in real life. And you too will be able to tackle these problems as you begin to learn Java. >> I'm Susan. In this course you'll learn to program in Java using techniques that can be used with simple programs but that can also scale to larger programs and larger problems. The libraries in APIs we introduce, make it easy to process data in many formats. You'll be able to use the same techniques, tools, and libraries in solving the problems we've designed for you. Problems whose solutions require the programming knowledge that you'll learn here. >> I'm Robert. As you learn about the syntax and semantics of Java programs, you will practice with a programming environment that's been specifically designed and proven to help learners like you who are getting started in programming. This programming environment will let you design, test, run and debug your programs using techniques that software engineers scientists and programmers apply as they design, create, and solve problems using Java and other languages. This programming environment can scale to large problems and is a great first step, as you learn to master increasingly sophisticated concepts. >> I'm Owen. And I'm really excited about the problems we've created for this course. We've used our collective years of experience to simplify problems and to provide you with opportunities to demonstrate your mastery of Java programming, while you work on real problems that are only slightly simplified from those problems faced every day, by those working in the many fields that use computational and programming approaches. We've designed our Java libraries in a similar way using standard Java idioms that you'll see if you continue to study programming but that are more easily used by those just getting started with Java. >> Once again welcome to Java programming. Solving problems with software. See you in the course.

Video 2. Resources to Help You Succeed

Hi, I'm Elizabeth. I'm part of the instructor team here at Duke University. Before you get started with this course, I want to make sure you're aware of some important resources and give you some tips for doing well. The assignments in this course will be programming exercises, so you'll practice writing code. Anything labelled programming exercise here in the course content is an assignment and contains instructions to help you write your own program. When you finish writing your code, there will be a practice quiz where you can check if your program works properly by comparing your results to answers provided by the instructors. I also want to show you the course site dukelearntoprogram.com. You can see we have a page for each course and a page for frequently asked questions about the

specialization. This has everything from certificates to the software we use in the course. If you go back to the home page and select the course you are working on, you'll get to that course's main page. So I'm using Course 2 here as an example. What I want to point now are Project Resources, Documentation, and the Frequently Asked Questions page. Project Resources is where you can download code to follow along with the video lectures or to begin the assignments. Documentation has a summary of the Java methods you'll learn in this course. This is useful if you forget the name of a method, or if you want to find out if there's a Java method to accomplish a particular task. It's not an exhaustive list of all Java methods, it's just a summary of the most useful ones for this course. Finally, the Frequently Asked Questions, or FAQ page, contains questions specific to this course. For questions about the specialization as a whole, click this link up here. So hopefully this video has given you and idea of how the course is structured and what resources you'll need to know about. If you have any feedback about how we can make this resources more useful to you, please let us know in the discussion forums on Coursera.

Video 3. Tips for Learning Programming

To help you do your best, we want to give you some suggestions about how to learn in the course. First, do a little each day. It's really hard to learn programming all at once. If you do a few course items each day, instead of trying to do it all in a day or two, you'll remember things better, you'll be more motivated, and you'll have more time to work through problems in your code. Speaking of problems with code also known as bugs, it's normal to make mistakes when you're programming. So, our next tip is, don't give up. Everyone gets bugs in their programs and part of programming is probing out what's wrong and how to fix it. When you're programming, we really recommend following the seven step process. This means, you should plan how to solve the problem before you start writing any code. If you didn't take our first course, don't worry. There will be a chance to review the seven step process later. The seven step process is important because it gives you a method for solving problems. Then when you've figured out a solution you can start writing code. Once you're ready to start writing your programs, make sure you've read the relevant documentation so you know what Java methods exist and how to use them. Refer back to the documentation as often as you need to. Next, take advantage of the live coding videos and the practice quizzes. For the live coding videos, this is a great opportunity to program alongside the instructors. You can also download the code from the videos and run it yourself. Try making small changes to make sure you really understand what each part of the program does. Finally, for the practice quizzes, even though they don't contribute to your final grade, they are still a good chance for you to test your code. Use the practice quizzes to find and fix problems before you move on to the graded quizzes. Finally, if you're still having trouble with your programs, ask for help from the instructor team annually appears in the course discussion forums. Part of being a good programmer is knowing how to ask for help effectively. We'll talk more about that in the next video.

Video 4. Object Oriented Programming with Java Specialization

Hello. We want to take a moment to tell you about a specialization created by instructors from Duke University and the University of California San Diego. It's called *Object-Oriented Programming in Java*. I'm Owen Astrachan, one of the instructors from Duke University, and I'll be helping you learn this specialization. We're going to start from the beginning with Java and learn how to use it to write programs to solve a wide variety of problems.
I'm Susan Roger and I'm another one of your instructors from Duke University. We'll start out with the basics in Java. So while we hope you have some programming experience already, we're going to assume you don't know anything about Java, but that you are eager to learn.
The next course of this specialization is Java programming, Arrays, Lists and Structured Data. I'm Robert Duvall and I'm excited to be teaching you about Java. In our next course, you'll dive more deeply into Java and learn to store data in more complex ways, allowing you to solve even more interesting and exciting problems. I think there is even a dinosaur in one of our examples.
And I'm Drew Hilton, and I'm your fourth instructor from Duke. After you learn these Java fundamentals with us, our friends from UCSD will take over and teach you even more exciting things about Java, an object-oriented program. We'll let them introduce themselves to you now, and then you'll see them again in a couple of months.

Hi, I'm Mia Mennes. I'll be one of your UC San Diego instructors. You'll meet us when you get to the third course, Object-Oriented Programming. In this course, we'll build on the programming concepts you learned from our friends at Duke, and then we'll also talk more about the object-oriented nature of Java, and how you can use it to build bigger programs to solve more complex problems.
Hi, I'm Leo Porter, and I'm an instructor at UC San Diego. Another topic that you'll be learning in the third course of this specialization is graphical user interfaces and event handling. With these skills, you'll be able to build interactive applications that are both easy and intuitive to use.
I'm Christine Alvarado, the final instructor on the UC San Diego team for this specialization. I want to tell you a little about the fourth course in this specialization. In that course, you'll learn how to store data more efficiently so your program can quickly perform operations on large sets of data. By the time you finish that course, you'll be a pretty good Java programmer. So, let's get started.