

UCIRVINE | EXTENSION

Java Programming Certificate Program



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UC Irvine Extension Certificate Program in Java Programming

OVERVIEW

The Certificate Program in Java Programming takes individuals with previous introductory coursework in Java or with previous experience programming in another language and gives them the knowledge and skills needed to develop Java applications for both client/server and Web environments. The courses in the program do not specifically focus on certification, but students who complete the program should have the knowledge and skills needed to pass the Sun Microsystems Certified Java Programmer exam.

PROGRAM NEED

Over recent years, Java has emerged to be the language of choice for developing robust, reliable, and scalable software for mission-critical systems. Much of the world's commercial activity involves software and systems developed using the Java language. In addition, Java's portability make it an attractive language for the development of software for mobile, wireless systems. As companies increasingly migrate their software from older, legacy languages to modern, object-oriented platforms, new programmers and experienced programmers alike will find learning Java to be important for their careers.

WHO SHOULD ENROLL

This certificate program is designed for people who already have introductory Java programming experience or experience using another object-oriented language such as C++ or C#. If you already work with Java, you may find the courses on Unified Modeling Language (UML) and object-oriented analysis and design to be useful as stand-alone courses to help improve your application design skills.

Because most Java application development is conducted using an engineering approach, we recommend that you have at least a bachelor's degree in a technical field such as computer science or engineering before starting this program.

CERTIFICATE AWARD REQUIREMENTS

To receive the certificate in Java Programming, you must complete the four required courses listed and one

elective course (a total of 15 units of coursework), with a grade of "C" or better in each course. Students must submit an Application for Candidacy form before completing their third course in the program.

PROGRAM FEES

Course fees	\$4,170
Candidacy Fee	\$125
Textbooks	\$275
Parking (\$34 per quarter)	\$0
Total Estimated Cost	\$4,570

LIST OF COURSES

Catalog Number	Title	Units
I&C SCI X471.71	Introduction to Unified Modeling Language	3.0
I&C SCI X471.91	Object-Oriented Analysis and Design	3.0
I&C SCI X460.10	Java Programming I	3.0
I&C SCI X460.11	Java Programming II	3.0
	Elective Courses	
I&C SCI X450.33	Design Patterns for Java	3.0
I&C SCI X460.48	AJAX Programming	1.5
I&C SCI X494.79	Agile Methods and Practices	3.0
I&C SCI X460.45	Building Applications for Mobile Devices using Java ME	1.5

For the latest schedule, please visit our Web site:
<http://unex.uci.edu/certificates/it/java/courses.asp>

Note: You may take as many individual courses as you wish without enrolling in the full certificate program.

COURSE DESCRIPTIONS

Introduction to Unified Modeling Language (UML)

I&C SCI X471.71 (3.0 Units)

Learn how to use the Unified Modeling Language (UML), an important aid to software development with an object-oriented programming language. This course, of interest to managers and QA engineers as well as to students and users of object-oriented languages such as C++ and Java, focuses on the use of UML to specify, visualize, construct, and document the artifacts of software systems and business models. The ability to work with UML is especially important for individuals responsible for the analysis and design of object-oriented systems. Students learn the fundamental concepts of UML (based on the work of Booch, Jacobson, and Rumbaugh) and how the UML notation is used to represent systems. Students also have an opportunity to apply what they learn in a series of exercises using a graphical design tool. Topics in this course include use-case diagrams, sequence diagrams, class diagrams, collaboration diagrams, statechart diagrams, activity diagrams, and implementation diagrams. This course serves as excellent preparation for further study in object-oriented analysis, design, and programming.

Object-Oriented Analysis and Design

I&C SCI X471.91 (3 Units)

Learn how to develop better, more complex software by applying good analysis and design methodologies. You'll learn how to approach software development systematically and how standardized notation such as the Unified Modeling Language (UML) allows you to map out the functionality of an application before writing any code. You'll also learn good practices for defining classes and methods so that your applications run efficiently and are easier to maintain. Anyone using object-oriented programming language including C++ , Java, VB.NET, or C# can benefit from this course.

Java Programming I

I&C SCI X460.10 (3 Units)

If you have introductory experience with Java or another object-oriented language, this course is for you. Learn how Java has become a popular and powerful computing environment for application development ranging from standalone applets to large-scale enterprise and eBusiness systems. This course is designed for students who are already familiar with object-oriented programming concepts gained either from experience with an object-oriented language (such as C++ or Smalltalk) or from introductory coursework in Java. The course expands students' knowledge of object-oriented programming practices and includes such topics as Java input/output (I/O), multithreading, graphical user interface (GUI) design, and networking with Java. Students who complete this course are prepared for Java Programming II (I&CSCI X460.11).

Java Programming II

I&C SCI X460.11 (3 Units)

Expand your knowledge of Java and learn about several of the advanced features available in the Java programming environment. This course focuses on the development of advanced graphical user interfaces (GUIs) using Swing including menus, toolbars and tables, multithreading and synchronization, networking, basics of databases and JDBC 2, JavaBeans, and reflection and introspection.

Design Patterns for Java

I&C SCI X460.33 (3 Units)

Why reinvent the wheel? Learn how to use design patterns to jump-start your programming solution! Design patterns are descriptions of general solutions to frequently occurring design problems encountered in many projects. Software developers can adapt a design pattern to fit a project on which they are working thereby saving many hours of development time. This course explores the 23 design patterns introduced by Gamma, Helm, Johnson, and Vlissides in their noteworthy book, Design Patterns: Elements of Reusable Object-Oriented Software. You'll learn about design patterns in a Java context and focus on developing concise descriptions of objects, classes and

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other data needed to fully specify a software solution starting with a design pattern.

AJAX Programming

I&C SCI X460.48 (1.5 Units)

AJAX (Asynchronous JavaScript with XML) is used to create web applications with rich graphical user interfaces that rival desktop applications. This fast-paced hands-on course is designed for the experienced Java web developer seeking to build interactive web applications that immediately respond to user input. This course focuses on the skills necessary to integrate AJAX into already existing web applications by highlighting common design problems eliminated by AJAX.

Agile Methods and Practices

I&C SCI X494.79 (3.0 Units)

Learn how to use Agile principles and methods of development and project management to promote team work, accountability, best practices to deliver quality software that is aligned with customer needs and your companies goals. The course is of interest to developers, project managers, business analysts, QA engineers, product managers as well as all managers involved in the software development process. The ability to incorporate Agile processes and methods is important in driving faster value of development effort as measured by working code. Students will learn the motivation behind the Agile movement as well as its methods such as Extreme Programming and Scrum. Students also have an opportunity to apply what they learn in a series of forum discussions and shared experiences. Methods in this course include, Extreme Programming (XP), Scrum, DSDM and Feature Driven Development. Practices covered in the course include, Test Driven Development, Behavior Driven Development and Pair Programming. This course serves as excellent preparation for further detail study in Agile methods and practices.

Building Applications for Mobile Devices using Java ME

I&C SCI X460.45 (1.5 Units)

The popularity of mobile devices and the Internet has spread worldwide. This popularity has created an explosion of mobile application development and a multitude of platforms. This fast-paced hands-on course is designed for the experienced Java developer seeking to transition to building applications using Java ME for mobile devices such as the Blackberry. This course focuses on the skills necessary to build applications that are mobile ready. Students will utilize the Blackberry Java Development Environment to build resident and micro-browser applications targeted for the Blackberry OS. In addition, students will learn how to access specific device features such as the phone, camera, or even GPS navigation. The Device Emulator will be used as a substitute for a physical device during much of the development and testing.

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APPLICATION FOR CANDIDACY

Certificate Program in Java Programming

This form must be submitted, along with a filing fee of \$125, prior to completion of the third course in the Program.

NAME Mr. Mrs. Ms.

HOME ADDRESS

CITY

STATE

ZIP

PHONE: DAY

EVENING

SOCIAL SECURITY NUMBER

JOB TITLE

EMPLOYER

EMPLOYER ADDRESS

Payment must be included with application.

MY CHECK FOR \$125 IS ENCLOSED (Payable to Regents of University of California).
CANDIDACY FEE IS NONREFUNDABLE AND NONTRANSFERABLE.

CHARGE TO: VISA MASTERCARD AMERICAN EXPRESS

ACCOUNT NUMBER

EXP DATE

AUTHORIZED SIGNATURE

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