UCIrvine | Extension

Java Enterprise Edition (Java EE) Technologies Certificate Program

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OVERVIEW

The Java Enterprise Edition (Java EE) Technologies Certificate Program provides learning opportunities for practicing Java programmers and software engineers to expand their knowledge of the advanced capabilities that are available with the Java programming language and development environment. Recipients of this certificate understand how to develop sophisticated Java software for enterprise-level business systems and e-commerce applications. The program also allows recipients of the Java Programming Certificate to continue their education and acquire new skills thereby enabling career growth through a defined learning pathway.

PROGRAM NEED

Despite the offshoring of many technology jobs, the need for U.S.-based software developers is not disappearing. The demand is especially high for individuals who have advanced Java programming skills combined with an understanding of business concepts. The Java EE Certificate Program focuses on the advanced skills and knowledge needed to build complete, database-driven enterprise applications that solve business problems. Trends such as the movement toward service-oriented architecture (SOA) form an integral part of this program.

CERTIFICATE AWARD REQUIREMENTS

In order to receive the Certificate in Java EE Technologies, students must complete three required courses and at least 3 elective courses (a total of 15 units of coursework) with a grade of C or better in each course. The target audience consists of individuals with training or work experience equivalent to what is covered in the Sun Microsystems Certified Java Programmer exam. Students must submit an Application for Candidacy form before completing their third course in the program.

CERTIFICATE ELIGIBILITY AND REQUIREMENTS

If you are new to Java EE, you should begin with *Overview of Java EE* in order to gain a complete perspective of the Java EE environment and its components. Next, you need to learn the two major components of Java EE: Java servlets and Enterprise Java Beans (EJB), which are essential for any work in Java EE. After this point you can decide to focus on either the presentation end (graphical user interfaces) or the backend (middleware and databases).

If you already have some Java EE knowledge, you can request a waiver of the overview course. You still need to complete the remaining required courses and three electives, however. Requests for waiver can be submitted via email to jdbadwah@uci.edu. Please provide a detailed explanation of why you do not need to take this course.

PROGRAM FEES

Individual course fees along with the cost of textbooks, parking, and other supplementary materials are subject to change without notice. For budgeting purposes, you may use the following estimates:

Course fees	$4170
Candidacy Fee	$125
Textbooks	$250
Parking ($34 per quarter)	$0
Total Estimated Cost	**$4,545**

Complete Certificate Program now online!

LIST OF COURSES

Catalog Number	Title	Units
Required Courses		
I&C SCI X460.07	Overview of Java Enterprise Edition (Java EE) Technologies	1.5
I&C SCI X460.34	Java Servlets	3.0
I&C SCI X460.15	Programming for the Enterprise with Enterprise Java Beans (EJB)	3.0
Elective Courses		
I&C SCI X460.25	Working with Java Database Connectivity (JDBC) and SQL	3.0
I&C SCI X460.32	Developing Web Services Using Java	3.0
I&C SCI X450.35	Developing Server –Side Applications with Java Server Pages (JSP)	3.0
I&C SCI X450.39	Web Application Development Using Java Struts	3.0
I&C SCI X460.42	XML and XLST for Java	3.0
I&C SCI X460.49	Developing JEE Applications Using Spring Framework	3.0
I&C SCI X494.81	Concepts of Service-Oriented Architecture (SOA)	1.5

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

COURSE DESCRIPTIONS

REQUIRED COURSES

Overview of Java Enterprise Edition (Java EE) Technologies
I&C SCI X460.07 (1.5 Units)
Java Enterprise Edition is the platform of choice for building robust, secure applications for business and industry. This course is essential if you wish to use Java EE to its fullest potential. The course introduces the major technologies that comprise Java EE including Enterprise Java Beans, servlets and Java Server Pages, network programming, and database programming, and serves as an important introduction to the in-depth courses on each topic that follow in the certificate program. Designed for technical managers and applications developers alike, the course emphasizes how the various components of Java EE can be integrated in the development of web-based commerce applications. *Prerequisites: I&CSCI X460.11, Java Programming II or equivalent experience; certification as a Sun Certified Java Programmer is desirable.*

Java Servlets
I&C SCI X460.34 (3.0 Units)
Learn how to create dynamic and portable Web content using Java servlets. Explore the advantages of using Java servlets compared to other server-side solutions. This course for Java programmers introduces servlet programming and the full range of capabilities afforded by the Java API and component classes developed by third-party vendors. You'll also learn how servlets are an integral part of the Java EE environment. Topics include the development of dynamic HTML documents; working with WAP and multimedia content; RMI, EJB, and XML integration; configuration details for Apache, Tomcat, and Sun's JavaServer Web Development Kit (JSWDK), and much more. *Prerequisites: I&CSCI X460.07, Overview of Java EE or equivalent experience.*

Programming for the Enterprise with Enterprise Java Beans (EJB)
I&C SCI X460.15 (3.0 Units)
Learn how to develop Java programs for the enterprise with Enterprise Java Beans. If you're a serious Java programmer who wants to develop large-scale systems for enterprise-wide and e-commerce systems, this course is for you. You'll learn about Remote Method Invocation (RMI), entity and session beans, container-managed and bean-managed persistence, XML deployment descriptors, transaction management, and other aspects of EJB technology. Expand your skills and gain valuable hands-on experience in one of the most rapidly growing software technologies. *Prerequisites: I&CSCI X460.11, Java Programming II, and I&CSCI X460.16, Sever-Side Java: Servlets and JSP, or equivalent experience with JDBC and Java Servlets.*

ELECTIVE COURSES

Working with Java Database Connectivity (JDBC) and SQL
I&C SCI X460.25 (3.0 Units)
Java Database Connectivity (JDBC) technology allows Java programs to access virtually any kind of data whether it is stored in a relational database, flat file, or even a spreadsheet. Learn how this API works and how you can take advantage of Java's "write once, run anywhere" philosophy for business and e-commerce data applications. This course, designed for Java programmers knowledgeable about the basic concepts of relational database design, shows you how to set up a database, establish a connection, and perform various database tasks and transactions from a Java program. You'll learn about transaction handling, stored procedures, the manipulation of relations in a database, batch updates, implementing SQL, metadata, array objects, and other topics. You'll also gain knowledge about establishing connections to data sources over a client-server network and over the Internet. *Prerequisites: I&CSCI X460.07, Overview of Java EE Technologies (recommended), and coursework or experience with relational database design.*

Developing Web Services Using Java
I&C SCI X460.32 (3.0 Units)
Learn how to develop Web services, well-described, self contained software components that feature specific functionalities that are available to other components over a network (e.g. the Internet). This course shows you how to allow business transactions to reach beyond the boundaries of your enterprise over the Internet. Specific technologies covered include SML, SOAP, XML-RPC, WSDL, UDDI, and ebXML. The course also gives you a look at several of the currently available tools that you can use to build Web services. *Prerequisites: Solid background in Java programming and web development. Students should be familiar with material*

covered in the Java Programming Certificate Program and the course Overview of Java EE.

Developing Server-Side Applications With Java Server Pages (JSP)
I&C SCI X460.35 (3.0 Units)
Expand your knowledge of server-side programming by learning Java Server Pages - HTML Web pages that call Java programs on a server. The course begins with JSP syntax and then covers such topics as JSP beans, custom tags, security issues, caching, and deploying Java Web applications. *Prerequisites: I&CSCI X460.15, Programming for the Enterprise with Enterprise Java Beans (EJB).*

Web Application Development Using Java Struts
I&C SCI X460.39 (3.0 Units)
Learn how to use the Struts framework to create professional quality Web applications in Java. This course introduces the Struts framework and shows you how you can use published standards and proven design patterns to simplify the Web application development process. Topics include the Model-View-Controller (MVC) design paradigm (which forms the basis for Struts application architectures), implementing interactions with standard data access technologies (including EJB, JDBC, and ORB), how Struts provides its own controller, and integrating Struts with various presentation systems such as JSP and Velocity Templates. *Prerequisites: Advanced coursework or experience using Enterprise Java Beans.*

XML and XLST for Java
I&C SCI X460.42 (3.0 Units)
The growth in business-to-business eCommerce application development continues unabated as enterprises are increasingly embracing IT centered business strategies. Two important tools in an enterprise's communications arsenal are eXtensible Markup Language (XML) and eXtensible Stylesheet Language Transformations (XSLT). These tools allow businesses to establish standardized data exchange formats. In this course, you'll learn how XML and XSLT are implemented in a Java environment and how they are used to facilitate the sharing and exchanging of data over a network. You'll learn how Java objects are transformed into XML, how to use XML with relational databases, and how to use XML with message-oriented middleware and Directory Services. You'll also learn about the declarative programming model and dynamic applications with Java.

Developing JEE Applications Using Spring Framework
I&C SCI X460.49 (3.0 Units)
This course enables the Java developer to use the Spring Application Framework to create multi-tier Web applications. Spring is a light-weight framework that aims to simplify development of enterprise solutions. Its support for Inversion of Control (IoC) promotes loose coupling of dependent objects. It also has rich support for aspect-oriented programming (AOP). We will use the framework to build a working enterprise strength application including business, web and data access tier. We will focus on the Core and MVC modules, with a lighter touch on persistence through DAO and ORM modules. *Prerequisites: Experience with object-oriented programming using Java; working familiarity with J2EE and web development using Java technologies.*

Concepts of Service-Oriented Architecture (SOA)
I&C SCI X494.81 (1.5 Units)
Service-Oriented Architecture (SOA) is a new approach to software systems development that addresses business problems and technology at the same time. This course introduces SOA with respect to management, software architecture, development, and operations. You will study methodologies for bringing SOA to organizations, learn technologies and infrastructure used in SOA implementation, and examine details on running SOA systems. You will also analyze real life case studies and learn about SOA implementations in real organizations. *Prerequisites: Informational knowledge of computer technologies used in enterprise computer systems.*

UNIVERSITY OF CALIFORNIA, IRVINE

UNIVERSITY EXTENSION

APPLICATION FOR CANDIDACY

Certificate Program in Java Enterprise Edition (Java EE) Technologies

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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