JAVA WEB DEVELOPMENT PROGRAM

An eight-week comprehensive program covering open-source, lightweight Java™ enterprise Web development using POJOs (Plain Old Java Objects)

DePaul University's Java Web Development Program is designed to provide programmers with a thorough introduction to the leading open-source platforms for enterprise Web development using POJOs. The program stresses standard Java technologies such as Java Server Pages (JSP)™ and open-source frameworks such as JSF, Hibernate and Spring.

Classroom lectures and demonstrations will be complemented by reading and programming assignments. The software used in this course is all open-source or is freely available for download.

YOU WILL LEARN:

- JSPs (Java Server Pages)
- JSF (JavaServer Faces)
- Hibernate
- Spring (IoC, AOP, MVC and Web Flow)
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Development of anything but the simplest Web application requires technologies that support the following: the presentation of formatted data to users, middleware (including support for transactions and security), and data persistence. These technologies should be tied together in an architecture that manages overall code complexity. The current standard is a Model-View-Controller (MVC) architecture in which the View comprises the presentation, the Controller comprises middleware and business logic, and the Model comprises application state and data persistence. For Web development in the Java world, Java 2 Enterprise Edition (J2EE) was designed as a framework to address the requirements listed above. Early J2EE had a major shortcoming, however—it was overly complex and intrusive. Two major initiatives have addressed this problem. One initiative is embodied in myriad open-source and commercial responses to J2EE complexity. Some of these responses—Struts, JavaServer Faces (JSF), Hibernate, and Spring, in particular—have become de facto industry standards and dominate current Java Web development. These technologies are the focus of the Java Web Development Program.

The second, competing initiative is the redesign of J2EE, now known as Java EE 5, which includes an improved EJB 3.0 specification, the new Java Persistence API, and the use of annotations to simplify configuration and deployment. Many of the improvements in Java EE 5 are based on the experience gained in the open-source arena.

Hibernate is the dominant persistence framework for Java enterprise (including Web) applications. Spring is equally dominant as a lightweight container and service provider that has minimal impact on the coding of business logic. Spring and Hibernate both allow the programmer to use Plain Old Java Objects (POJOs) to encode data and business logic.

There is no single dominant framework for presentation; however, all the modern competitors begin with the servlet container. Java Server Pages (JSP) is the official Web page scripting language. JSP is extensible and has standard tag libraries. Although JSP is an improvement over servlets, it does not adequately address the separation of business logic from presentation. Apache Struts and JSF are higher-level presentation technologies based explicitly on the MVC architecture, which promotes the separation of business logic from presentation.

The ideal participant will have a solid programming background as well as knowledge of core Java and basic knowledge of Web technologies. Students in the program are expected to do a considerable amount of work outside of class. Instructors will be accessible in person and through electronic mail.

CURRICULUM

INTRODUCTION/OVERVIEW

Program overview.

SERVLETS

Basic server-side, Web-based scripting.

JSPs (JAVA SERVER PAGES)

Relationship to servlets. Standard tag library. Expression language.

JSF (JAVASERVER FACES)

Relationship to JSPs. Managed beans. Custom UI components. Wiring client-generated events. Shale.

HIBERNATE


SPRING FRAMEWORK

Dependency injection (DI). Aspect-oriented programming
FUTURE TRENDS

Future directions.

GENERAL INFORMATION

ADMISSION

Applicants must have a solid programming background (at least two years of professional software development experience is required) as well as knowledge of core Java and basic Web technologies.

A substantial commitment of time is required for this intensive course of study. Final admission will be determined by the admissions committee on the basis of an applicant's overall qualifications, including work history and educational background.

FACILITIES

To promote the learning process, the Institute maintains special-purpose laboratories as well as dedicated classrooms equipped with state-of-the-art audio/visual equipment.

In addition, the college’s unique Course OnLine (COL) technology allows students to replay classes over the Internet. COL captures and replays five components of the classroom experience—audio, video, PC screen, whiteboard, and document camera input—and incorporates them into one interface to provide an innovative rebroadcast system.

SCHEDULE

The Institute schedules a session in the fall, winter, and spring quarters. Classes meet on Tuesday and Thursday evenings and in the morning on occasional Saturdays in the program. The option to take the program strictly online is also available.

FACULTY

The faculty consists of a team of instructors from the College of Computing and Digital Media and experts in industry. Faculty will be available throughout the program both in person and through electronic mail.
The college, through its School of Computing and its School of Cinema and Interactive Media, offers a variety of programs at the undergraduate and graduate levels. Over 1,000 students are enrolled in the college’s bachelor’s programs and over 2,000 students are enrolled in the master's and Ph.D. programs making the college’s graduate program one of the largest in the country. The college offers more than 200 courses each quarter, many in the evening, in several locations: the Loop Campus, the Lincoln Park Campus, the O'Hare Campus, the Naperville Campus, and the Rolling Meadows Campus. Most of the degree programs are also available exclusively online.

Current offerings at the undergraduate level include:

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- Animation B.S. / Animation B.A.
- Computer Games Development B.S.
- Computer Graphics and Motion Technology B.S.
- Computer Science B.S.
- Computing B.A.
- Digital Cinema B.S. / Digital Cinema B.A.
- Graphic Design B.F.A.
- Information Assurance and Security Engineering B.S.
- Information Systems B.S.
- Information Technology B.S. / Information Technology B.A.
- Interactive Media B.S.
- Math and Computer Science B.S.
- Network Technologies B.S.

**Offerings at the graduate level include:**

- Animation M.A.
- Applied Technology M.S.
- Business Information Technology M.S.
- Cinema Production M.S.
- Computer Game Development M.S.
- Computer Graphics and Motion Technology M.S.
- Computational Finance M.S.
- Computer Science M.S.
- Computer, Information and Network Security M.S.
- E-Commerce Technology M.S.
- Human-Computer Interaction M.S.
- Information Systems M.S.
- Information Technology M.A.
- IT Project Management M.S.
- Network Engineering and Management M.S.
- Predictive Analytics M.S.
- Software Engineering M.S.
- J.D./M.A. in Computer Science Technology
- J.D./M.S. in Computer Science Technology

**Master’s of Fine Arts**
- Animation
- Cinema
- Screenwriting

**Ph.D. in Computer and Information Sciences**

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**INSTITUTE FOR PROFESSIONAL DEVELOPMENT**

The Institute for Professional Development was formed by the college in 1984 to assist both individuals and businesses in keeping pace with the rapid development of computer technologies. The Institute currently offers a variety of intensive certificate programs in these areas:

- Advanced SQL
- Big Data and NoSQL
- Cloud Computing Technologies
- Cloud Computing with Amazon Web Services®
- IPv6
- IT Project Management
- Java™ Developer
- Java™ Web Development
- Java™ Web Services
- .NET Developer
- Ruby on Rails®
- SharePoint® Developer
- SQL Server® Business Intelligence
- SQL Server® Database Administration
- Web Development with JavaScript & HTML5
- Web Development with Python®
- Wireless LAN Security

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**APPLICATION PROCEDURE:**

Complete the enclosed application and return it with a non-refundable $40.00 application fee (check or money order made payable to DEPAUL UNIVERSITY) to:

DePaul University
Java Web Development Program
Institute for Professional Development
243 S. Wabash Avenue, Room 301
Chicago, IL 60604-2300

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