



DEPAUL UNIVERSITY

COLLEGE OF COMPUTING AND DIGITAL MEDIA

Institute for Professional Development

JAVA DEVELOPER PROGRAM

A ten-week comprehensive program covering object-oriented applications development using the Java™ programming language

DePaul University's Java Developer Program is designed to provide programmers with an intensive and comprehensive introduction to component software development using Sun Microsystems' Java™ language. Components are well-suited to the development of large, complex software systems, particularly graphical user interfaces. The Java Developer Program focuses on Java as a general purpose, cross-platform applications language; the program also covers ancillary interfaces for the development of distributed systems and graphical user interfaces.

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

YOU WILL LEARN:

- Java basics
- object-oriented programming fundamentals
- standard Java class libraries
- Abstract Window Toolkit (AWT)
- multi-threaded programming
- graphics
- JFC/Swing
- network programming
- JavaBeans™
- JDBC™
- RMI
- applets
- graphics
- Java development tools
- testing
- Java Virtual Machine (JVM)™
- security
- Java and XML

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JAVA DEVELOPER PROGRAM

Java is the most significant development in programming languages in recent years. Java provides a clean, object-oriented model in a simple interpreted language. Because Java code compiles into a platform-independent format, the same Java executable can run in any environment that implements the Java Virtual Machine (JVM).

Java provides facilities to simplify and secure distributed systems. Java has built-in libraries for networking, including sockets and remote procedure calls; for vendor-independent, *n*-tier database applications; for security; and for graphical user interfaces. Java's multi-threaded model is also useful for graphics and multimedia applications.

The Java Developer Program is intended for individuals with a solid programming background, but no knowledge of Java is assumed. Participants are expected to do a considerable amount of work outside of class. Instructors will be available in person and through electronic mail.

CURRICULUM

The following topics are covered in the program. Each unit involves reading assignments as well as programming assignments. The software used in the program is all open-source or freely available for download to the student's own computing environment. It is also available in the Institute's dedicated computer laboratory.

OVERVIEW/ENVIRONMENT	Development environments. Java Development Kit overview. Language overview. Directions for download and installation of software used in the program.
JAVA LANGUAGE	Basic language constructs. Applications and applets. Object-oriented programming concepts: classes, objects, interfaces. Exceptions. Events and exception handling. Java class libraries: string handling, file handling. Object persistence.
DATABASE	Introduction to JDBC. JDBC programming and applications. Driver types. Class support. Class library support.
NETWORKING	TCP/IP fundamentals. Client/server concepts. Socket programming including SSL. Server architecture. Web applications.
THREADS	Processes and threads. Thread synchronization. Thread priorities. Daemon threads.
RMI	Component software architecture. Interfaces. RMI. Authentication.
GUI LIBRARIES	AWT/JFC/Swing. GUI component overview. Event/response architecture. Callbacks. Layout Managers. Graphics context: fonts, colors, drawing. Clipboard data transfer. Dialogs. Menus. Design issues.
JAVABEANS	Bean architecture and event model. Properties.
SECURITY AND JAVA VIRTUAL MACHINE (JVM)	JVM architecture. Interpretation and compilation. JIT. Java sandbox architecture. Byte Code Verifier. Class Loader. Security Manager.
APPLETS	Applets versus applications. Downloading basics. HTML encoding. Applet containers. Applet security. HTTP protocol.
TESTING AND JAVA DEVELOPMENT TOOLS	Introduction to various Integrated Development Environments (IDEs) and testing tools commonly used in industry.

GENERAL INFORMATION**ADMISSION**

Applicants must have a solid programming background (at least two years of professional software development experience is required).

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.

CLASSES

The Institute offers one section of the program each quarter. Classes meet on Monday and Wednesday evenings and in the morning on approximately half of the Saturdays during the program.

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.

COLLEGE OF COMPUTING AND DIGITAL MEDIA

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. Many of the degree programs are also available exclusively online.

Current offerings at the undergraduate level include:

School of Computing

Computer Games Development
Computer Graphics and Motion Technology
Computer Science
Computing
Information Assurance and Security Engineering
Information Systems
Information Technology
Interactive Media
Math and Computer Science
Network Technology

School of Cinema and Interactive Media

Animation
Computer Games Development
Computer Graphics and Motion Technology
Digital Cinema
Interactive Media

Current offerings at the graduate level include:

School of Computing

Applied Technology
Business Information Technology
Computer Graphics and Motion Technology
Computational Finance
JD/MS in Computer Science Technology
JD/MS in Computer Science Technology
Computer Information and Network Security
E-Commerce Technology
Human-Computer Interaction
Information Systems
Information Technology
Instructional Technology Systems
IT Project Management
Software Engineering
Telecommunications Systems

School of Cinema and Interactive Media

Computer Games Development
Computer Graphics and Motion Technology
Digital Cinema – MS
Digital Cinema – MFA
Human-Computer Interaction

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
- IT Project Management
- Java™ Developer
- Java™ EE Developer (formerly J2EE Developer)
- Java™ Web Services
- Lightweight Java™ Web Development
- .NET Developer
- Ruby on Rails™
- SharePoint® Developer Program
- SQL Server® Business Intelligence
- SQL Server® Database Administration
- Web Development with Python®

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:

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