Lucas Software Engineering, Inc.

Course Offerings 2002-2003

The following is a list of courses offered by Lucas Software Engineering, Inc. If you would like to talk to us about conducting these courses or customizations, please contact us at info@lse.com and describe the course you want along with the location, number of people, and timeframe.

Course	***Description***	***Days***
JAVA PROGRAMMING (GUI)	Java is the programming language of the Internet. This course teaches students how to write Java applications and other Java code bodies including applets. The course prepares students for important advanced technologies such as Servlets, JDBC, JavaBeans, and EJBs. Topics include data types, control flow, object orientation, abstract classes, interfaces, input and output, exception handling, threads, networking, graphical user interfaces with the AWT and the Swing Components. Many hands-on lab exercises support the classroom lectures.	5
JAVA PROGRAMMING (Non-GUI)	Java is the programming language of the Internet. This course teaches students how to write Java applications and other Java code bodies. The course prepares students for important advanced technologies such as Servlets, JDBC, JavaBeans, and EJBs. Topics include data types, control flow, object orientation, abstract classes, interfaces, input and output, exception handling, threads, networking, and the collection classes. Many hands-on lab exercises support the classroom lecture	5
ADVANCED JAVA PROGRAMMING	Advanced Java is a comprehensive study of many advanced Java topics. These include interfaces and dynamic object loading, thread synchronization, reflection, the MVC pattern, performance issues, advanced networking with sockets, Servlets, JavaBeans, Java DataBase Connectivity, Remote Method Invocation, Java Foundation Classes, and the relationship between XML and Java.	5

Course	*Description*	*Days*
J2EE INTRODUCTION	This course is an introduction to writing J2EE (Java 2 Enterprise Edition) applications using either BEA System's WebLogic Application Server, IBM's Websphere Advanced Server, Borland's Enterprise Server, or JBoss. An overview of J2EE technology is provided, followed by hands-on experience using JNDI and JDBC and writing Servlets, JavaServer Pages, and Enterprise JavaBeans. Start-up, shutdown, and basic configuration of the application server is covered, including setup for authentication and authorization of users.	5
C++ PROGRAMMING	(Compiler and Operating System Independent) This course provides students with a comprehensive study of the C++ Programming Language. The course stresses the object paradigm including classes, inheritance, encapsulation, data abstraction, and polymorphism. Topics include operator and function overloading, constructors and destructors, virtual functions, templates, i/o, and exceptions. Lab exercises reinforce the lectures.	5
ADVANCED C++ PROGRAMMING	This course broadens the skills of a C++ programmer by presenting an in-depth treatment of templates, exceptions, memory management, advanced inheritance issues, disambiguation, proxy classes, reference counting, runtime type identification, and the standard template library. Group discussions and lab exercises support the classroom lectures.	5
C++ STL PROGRAMMING	The C++ Standard Template Library is a large part of the new ANSI C++ Standard Library. This library, a triumph in generic (type independent) programming is built upon three major components: containers, algorithms, and iterators. This course demonstrates the use of these components, all of which are templates. Many lab exercises reinforce the lectures.	3
CORBA	This course concentrates on distributed application development using the OMG's Common Object Request Broker Architecture (CORBA). The CORBA specification allows distributed objects written in various programming languages such as Java and C++ to inter-operate across diverse hardware platforms. Classroom lectures are supported with lab exercises.	5
IMPLEMENTING DESIGN PATTERNS	Design Patterns are proven solutions to recurring problems in object-oriented software systems. This course covers sixteen design patterns and includes detailed programming exercises to allow students to practice implementing selected patterns (Java or C++).	3

Course	*Description*	*Days*
OBJECT ORIENTED ANALYSIS AND DESIGN USING UML	This course uses the industry-standard Unified Modeling Language as the means of expressing OO concepts, and providing team members with a common notation and vocabulary for communicating their ideas. This course emphasizes the conceptual basis of OO through continuous application of key words. Topics include: OO vocabularies, case diagrams, class diagrams, interactive diagrams, state diagrams, the UML process, and advanced modeling concepts.	3
INTRODUCTION TO UNIX	(ALL major UNIX variants including AIX, HP-UX, Solaris, Linux, SCO, et al) This is the first in a series of courses focusing on the UNIX Operating System, including Linux, Solaris, AIX, HP-UX, etc. A comprehensive study is given, including its evolution, structure, programming environment, and user interface. Topics include user interfaces, the shell (Korn, Bourne, C, etc.), file system commands, data manipulation commands, editors (vi and ed), software tools, networking tools, and system administration tools. The course is supplemented with many hands-on exercises that reinforce the lectures.	5
XML FOR NON-PROGRAMMERS	The Extensible Markup Language (XML) is a subset of the Standard Generalized Markup Language (SGML) that specifies the rules for creating markup languages (such as HTML) which can be shared on the World Wide Web. This course teaches you the principles, benefits and components of XML, introduces some advanced principles of XML development and emerging standards such as namespaces, XPOINTER, XLINK, and XSL.	3
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XML FOR THE ENTERPRISE	This comprehensive course gives the student a solid working knowledge of the core XML language and several important related technologies. XML is rapidly expanding into a wide variety of practical uses, and this course develops a similarly broad range of skills, from basic grammar to document design to transformations and web presentation. It is geared towards students who desire a comprehensive knowledge of XML and related technologies to solve enterprise programming problems.	3

Course	*Description*	*Days*
XML DOCUMENT DESIGN	This course gives the student an introduction to the eXtensible Markup Language, or XML, and to the XML Schema standard for defining document type information. It is geared towards students who desire a working knowledge of XML for the purpose of managing data stores using XML documents, and especially for those working with relational database systems and XML.	3
XML TRANSFORMATIONS	This course takes the student from an introduction to the eXtensible Markup Language, or XML through an in-depth study of XPath and XSLT. It is geared towards students who desire a working knowledge of XML and XSLT for the purpose of managing XML documents and transformation paths as part of enterprise software development. There is some in-browser presentation as a means of immediate feedback in lab exercises, but the module focuses on server-side development.	3

To find out more about courses offered by Lucas Software Engineering, Inc. you can visit our web site at http://www.lse.com , contact us at info@lse.com or call us at 740-964-6248. If you prefer to write, send us a letter at:

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