

Web Database Developer

267 hours

Course Overview/Description

In the Web Database Developer online program, students will learn to develop web applications using several different tools and technologies. This program is composed of multiple modules to serve as a baseline in developing and maintaining Web sites. Students will begin to learn the client-side languages, such as HTML and JavaScript and extend into server-side languages, such as ColdFusion and PHP.

This interactive program consists of the modules described below:

Web Design & Graphics

This series presents concepts for designing and building Web sites. It covers how to plan the structure of a Web site, maintaining the Web site files, and considering the affect that various browsers, monitors, and systems can have on the display of a site. Strategies for making a site download quickly and display well across all browsers and systems are presented, along with creating color schemes, backgrounds, GIF transparencies, and image maps. Additional topics covered in this series include the use of HTML and graphics for formatting and layout, and other useful tools such as frames, animated GIFs, dynamic HTML, JavaScript, QuickTime, Flash, and Shockwave.

Web Publishing and Design with HTML 4.01 and XHTML

The Web Publishing and Design with HTML 4.01 and XHTML series teaches you how to make Web sites using HTML 4.01, XHTML, and cascading style sheets. It also provides tips and guidelines to help you design and create effective Web sites, as well as organize their content.

JavaScript

This series provides an overview of the ways JavaScript can be used for adding interactivity to Web content. In addition, frames, cookies, objects, text strings, and a brief history are explained.

AJAX

Asynchronous JavaScript and XML is one of the most popular current programming techniques used in web application development. Use this series to learn how to build interactive, exciting, fast apps for your web site programming.

Dynamic HTML

This series is intended for Web page developers who want to implement Dynamic HTML in their Web site design. It examines the basic concepts of DHTML and the use of Cascading Style Sheets, implementing JavaScript with DHTML, and the DHTML object model. Other topics covered include objects, events and event handling, style sheets and

content formatting, and binding data from other sources to Web pages.

SQL for the Windows Environment

SQL is the most widely-used database language. Acquiring a good working knowledge of SQL is an important skill for anyone who interacts with databases. Short, focused lessons start with simple data retrieval and progress to complex topics such as using joins, subqueries, stored procedures, and table constraints.

CGI/Perl

This series is designed for users who want to create interactive Web pages using CGI and Perl. It covers creating and working with forms, building programs using HTTP headers and SSI, and developing Web applications and utilities. It also discusses how to write data between Web pages and databases, and using SQL with relational databases.

ColdFusion MX

This series teaches users how to install and set up a ColdFusion development environment, including connecting to a database, and also teaches how to build ColdFusion applications that integrate such features as e-mail, FTP, Flash, Java, and XML.

PHP and MySQL

This series teaches learners to create dynamic Web sites. Learners will be able to apply their knowledge to the creation of dynamic Web applications such as content management, user registration, and e-commerce.

XML

This series provides an introduction to the Extensible Markup Language (XML) and its general format. It introduces the fundamentals of XML, including how to read a basic XML document, the XML document structure, and viewing XML source documents. It shows how to build an XML data document, including creating elements and element modes, naming XML objects, and creating declarations and well-formed documents. Building DTDs is explained in detail, along with creating and managing internal, external, and parameter entities. Additional topics covered in this series include a detailed discussion of the Document Object Model, Cascading Style Sheets (CSS), and XSL Style Language.

SQL Server 2005 MCTS 70-431

This series explains how to install, configure, and use SQL Server 2005.

Oracle

This series presents the common features shared by the Oracle Developer/2000 suite of tools, including Forms 4.5, Reports 2.5, Graphics 2.5, and Procedure Builder 1.5. It covers navigation of the development environment and describes editing and debugging features, as well as features that provide object orientation, integration, and OLE2 support. The series covers each tool in greater detail, examining the capabilities and functions of each. Advanced topics covered include the development of applications



using Forms and Reports, and the integration of Oracle applications through a single point of entry for the user.

Course Objectives

The purpose of this program is to:

- Learn to use HTML, Cascading Style Sheets, and JavaScript to design web pages.
- Learn Dynamic HTML to make your web pages more interactive.
- Learn to use Dreamweaver for more efficient web design and development.
- Learn Flash and ActionScript to create dynamic interactive user interfaces.
- Learn ColdFusion, Perl, and/or PHP to database-driven web applications.
- Learn SQL to pull data from a database and to insert and modify data in a database.
- Learn to use XML to store and validate data and to make data more accessible to other applications.

Course Outline

I. Web Design & Graphics

- a. Introduction to Design
- b. Making Your Site Fast and Viewable
- c. Building Your Site with Images
- d. Building Your Site with Formatting
- e. Using Other Tools

II. Web Publishing and Design with HTML 4.01 and XHTML

- a. Getting Organized
- b. Basics of HTML and XHTML
- c. HTML, XHTML, and Cascading Style Sheets (CSS)
- d. Advanced Cascading Style Sheets (CSS), Forms, and DHTML
- e. Adding Interactivity and Multimedia with HTML and XHTML

III. JavaScript

- a. Start Using JavaScript
- b. Using JavaScript for Interactivity
- c. Using Advanced JavaScript

IV. AJAX

- a. History and Revival of AJAX
- b. Introducing JavaScript
- c. The XMLHttpRequest Object
- d. N-Tier and AJAX
- e. Rich Internet Applications

- f. CSS and the DOM
- g. AJAX Frameworks
- h. Understanding an AJAX Library
- i. AJAX and Web Services
- j. Tagging with AJAX
- k. Cloning Google Suggest
- l. User Controls and AJAX.NET
- m. AJAX and Mapping
- n. AJAX and Web Parts
- o. AJAX and ASP.NET Security
- p. Performance
- q. Debugging Your Application
- r. AJAX and Site Testing
- s. AJAX Usability
- t. Atlas

V. Dynamic HTML

- a. DHTML and Style Sheets
- b. Using Javascript
- c. Objects and Events
- d. Styles and Content
- e. Data From Other Sources

VI. SQL for the Windows Environment

- a. Introduction to Databases and SQL
- b. Filtering Data
- c. Calculations and Functions
- d. Summarizing Data
- e. Groups and Queries
- f. Joins
- g. Data and Tables
- h. Views and Stored Procedures
- i. Transaction Processing and Cursors
- j. Advanced SQL Functions

VII. CGI/Perl

- a. Getting Familiar with Forms
- b. Building Programs
- c. Web Applications
- d. Interacting with Databases

VIII. ColdFusion MX

- a. Introduction and Installation
- b. Talking With the Database
- c. Displaying Data
- d. Programming and Application Framework
- e. Custom Tags and Building Blocks
- f. Using E-mail, Complex Data Types, and FTP
- g. Securing, Debugging, and Improving Application Performance
- h. Using Flash, Java, and XML
- i. Integration and Understanding Fusebox and FLiP
- j. Functions, Tags, and Resources

IX. PHP and MySQL

- a. Installing Required Software
- b. PHP Basics
- c. Programming with PHP
- d. Creating Dynamic Web Sites
- e. SQL and MySQL
- f. Advanced SQL and MySQL
- g. Error Handling and Debugging
- h. Using PHP with MySQL
- i. Developing Web Applications
- j. Cookies and Sessions
- k. Web Application Security
- l. Extended Topics
- m. Content Management Example
- n. User Registration Example
- o. E-Commerce Example

X. XML

- a. Viewing and Understanding XML
- b. Creating a Basic Document
- c. Building DTDs and Checking Documents
- d. Entities
- e. The Document Object Model
- f. CSS and XSL Style Sheets

XI. SQL Server 2005 MCTS 70-431

- a. Installing and Configuring SQL Server 2005
- b. Creating Databases
- c. Working with Tables and Programmability Objects

- d. Implementing Database Objects
- e. Supporting the XML Framework
- f. Enhancing Data Consumption and Throughput
- g. Maintaining and Backing Up Databases
- h. Monitoring Performance
- i. Troubleshooting and Optimizing
- j. Implementing High Availability
- k. Practice Exams

XII. Oracle

- a. Introduction to PL/SQL
- b. Overview of Developer/2000
- c. Forms 4.5 and Reports 2.5
- d. Graphics 2.5 and Procedure Builder 1.5
- e. Developer/2000 Applications
- f. Developer/2000 Integration

Prerequisites/Audience

Prerequisites

There are no specific prerequisites for this program. Students are assumed to be fairly knowledgeable on computers/Internet, and will need Internet connection with emailing capabilities.

Target Audience

This program is for students who wish to become proficient in using HTML/DHTML and server-side programming to build web pages.

PC Requirements/Materials Included

The following are the minimum user system requirements necessary to enjoy maximum access to the HTML-based courses, all of which can be obtained for free:

- A web browser
- Any text or HTML editor
- The ability to install or access a web server (e.g, IIS or Apache)
- ColdFusion Application Server
- Perl
- PHP

- MySQL
- SQL Server 2005 (Express Edition is fine)
- Oracle (Express Edition is fine)

We do not formally support our courseware on the Macintosh platform. If you choose to try to use the courses on a Macintosh, you need to be aware that they will not have full functionality, specifically within the Authorware simulations and the supplied files. However, if you are a Macintosh user and make use of a Windows emulator, Authorware simulations and supplied files may function. Since we do not test with Macintosh or Windows emulators, we cannot guarantee our courses on the Macintosh platform.

This course includes a full online reference library featuring the following titles:

- *Agile Software Development Quality Assurance* by Stamelos, Ioannis G; Sfetsos, Panagiotis
- *Beginning Ajax With PHP : From Novice to Professional {Expert's Voice in Open Source}* by Babin, Lee
- *Professional Search Engine Optimization With PHP : A Developer's Guide to SEO {Wrox Professional Guides}* by Sirovich, Jaimie; Darie, Cristian
- *Beginning Ruby On Rails {Wrox Beginning Guides}* by Holzner, Steven
- *Web Analytics : An Hour a Day {Sybex Serious Skills}* by Kaushik, Avinash
- *Practical Internet Security* by Vacca, John R
- *Professional LAMP: Linux, Apache, MySQL, and PHP Web Development* by Gerner, Jason
- *Beginning PHP and MySQL 5 : From Novice to Professional {2Nd Ed.}* by Gilmore, W J
- *Web and Information Security* by Ferrari, Elena; Thuraisingham, Bhavani M
- *Beginning Web Development With Perl : From Novice to Professional* by Suehring, Steve
- *Professional Web APIs With PHP : EBay, Google, PayPal, Amazon, FedEx Plus Web Feeds {Wrox Professional Guides}* by Reinheimer, Paul Michael
- *PHP 5 Unleashed* by Coggeshall, John M
- *PHP and MySQL Everyday Apps for Dummies {--For Dummies}* by Valade, Janet
- *Zend PHP Certification Study Guide* by Herbert, Stuart
- *How to Do Everything With PHP & MySQL* by Vaswani, Vikram
- *Pro Perl {Expert's Voice in Open Source}* by Wainwright, Peter
- *Beginning Regular Expressions* by Watt, Andrew
- *PHP 5 Recipes : A Problem-solution Approach {Expert's Voice in Open Source}* by Babin, Lee



Division of Continuing Education

- *VBScript Programmer's Reference {2Nd Ed.}* by Kingsley-Hughes, Adrian; Kingsley-Hughes, Kathie; Read, Daniel
- *Beginning PHP, Apache, MySQL Web Development* by Glass, Mike
- *Apache, MySQL, and PHP Weekend Crash Course* by Schafer, Steven M
- *Agile Database Techniques : Effective Strategies for the Agile Software Developer* by Ambler, Scott W
- *Creating Interactive Websites With PHP and Web Services* by Rosebrock, Eric
- *Learn VBScript in a Weekend {In a Weekend}* by Ford, Jerry Lee
- *Using Active Server Pages* by Johnson, Scot; Ballinger, Keith; Chapman, Davis Howard
- *Teach Yourself VBScript in 21 Days* by Brophy, Keith; Koets, Timothy