Lab Four
Professional Development Center

Information Technology
Learning Series

Microsoft Certified Professional Developer

Competency Goals:

The goal of the Technical E-Learning: Microsoft Certified Professional Developer program is to prepare students to work in the Information Technology field in a variety of positions working in software programming & development. Completers will be prepared to pass certification exams designed and administered by Microsoft. These certifications can be applied anywhere Microsoft operating systems are used, giving certification holders a great advantage in the competitive IT job market.

This course combines MCPD competencies in Visual Studio Web Development & Windows Development. Students will learn how to design & implement relational database models (both logical & physical) as well as database storage objects. They will also learn how to program servers by using user-defined functions, triggers, stored procedures, Transact-SQL, or the CLR. They will also retrieve & modify data using SQL queries, as well as tuning & optimizing queries.

See next page for example Outline.

Sample Job Titles

Software Engineer, Application Integration Engineer, Programmer Analyst, Software Development Engineer, Computer Consultant, Software Architect, Software Developer, Technical Consultant, Applications Developer, Business Systems Analyst, Programmer Analyst, Programmer, Analyst Programmer, Computer Programmer, Software Developer, Applications Developer, Computer Programmer Analyst, Internet Programmer, Java Developer, Web Programmer, , Computer Support Specialist, Helpdesk Support, Desktop Support, or other similar jobs.

Tuition: $7,600.00

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50 Vantage Way, Suite 201
Nashville, TN 37228
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After completing this course, students will be able to:

- Explain how to use Visual Studio 2012 to create and run a Web application.
- Describe the new features of HTML5, and create and style HTML5 pages.
- Add interactivity to an HTML5 page by using JavaScript.
- Create HTML5 forms by using different input types, and validate user input by using HTML5 attributes and JavaScript code.
- Send and receive data to and from a remote data source by using XMLHTTPRequest objects and jQuery AJAX operations.
- Style HTML5 pages by using CSS3.
- Create well-structured and easily-maintainable JavaScript code.
- Use common HTML5 APIs in interactive Web applications.
- Create Web applications that support offline operations.
- Create HTML5 Web pages that can adapt to different devices and form factors.
- Add advanced graphics to an HTML5 page by using Canvas elements, and by using and Scalable Vector Graphics.
- Enhance the user experience by adding animations to an HTML5 page.
- Use Web Sockets to send and receive data between a Web application and a server.
- Improve the responsiveness of a Web application that performs long-running operations by using Web Worker processes.
- Describe the Microsoft Web Technologies stack and select an appropriate technology to use to develop any given application.
- Design the architecture and implementation of a web application that will meet a set of functional requirements, user interface requirements, and address business models.
- Create MVC Models and write code that implements business logic within Model methods, properties, and events.
- Add Controllers to an MVC Application to manage user interaction, update models, and select and return Views.
- Create Views in an MVC application that display and edit data and interact with Models and Controllers.
- Run unit tests and debugging tools against a web application in Visual Studio 2012 and configure an application for troubleshooting.
- Develop a web application that uses the ASP.NET routing engine to present friendly URLs and a logical navigation hierarchy to users.
- Implement a consistent look and feel, including corporate branding, across an entire MVC web application.
- Use partial page updates and caching to reduce the network bandwidth used by an application and accelerate responses to user requests.
- Write JavaScript code that runs on the client-side and utilizes the jQuery script library to optimize the responsiveness of an MVC web application.
- Implement a complete membership system in an MVC 4 web application.
- Build an MVC application that resists malicious attacks and persists information about users and preferences.
- Describe how to write a Windows Azure web service and call it from and MVC application.
- Describe what a Web API is and why developers might add a Web API to an application.
- Modify the way browser requests are handled by an MVC application.
- Describe how to package and deploy an ASP.NET MVC 4 web application from a development computer to a web server for staging or production.
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