

ITT Technical Institute
CS220
Server-Side Web Programming
Onsite Course

SYLLABUS

Credit hours: 4

Contact/Instructional hours: 50 (30 Theory Hours, 20 Lab Hours)

Prerequisite(s) and/or Corequisite(s):

Prerequisites: CS111 Client-Side Web Scripting or equivalent, CS120 Programming in Visual Basic or equivalent, IT203 Database Development or equivalent

Course Description:

The course introduces server-side programming using leading Web scripting languages to build Web applications. The course also covers database access from Visual Basic.

Syllabus: Server-Side Web Programming

Instructor: _____
 Office hours: _____
 Class hours: _____

Major Instructional Areas

1. ASP.NET application structure
2. Web Forms and Web controls
3. User input validation
4. Site and page design
5. Data access
6. User authentication and authorization
7. Creating objects
8. State management

Course Objectives

1. Describe the components and lifecycle of an ASP.NET application.
2. Add controls to an ASP.NET Web page.
3. Modify the HTML of an ASP.NET Web page.
4. Add code to ASP.NET page and control event procedures.
5. Use validation controls to validate user input.
6. Use the Master page, themes, and skins to provide a consistent look across pages.
7. Add a menu to an ASP.NET application.
8. Access a database from an ASP.NET application.
9. Manage state in an ASP.NET application.
10. Implement authentication and authorization.
11. Create components that can be shared across Web pages.

Course Outline

Note: All graded activities, except the Course Project and Exams, are listed below in the pattern of <Unit Number>.<Assignment Number>. For example, Lab 1.1 refers to the 1st lab activity in Unit 1.

Unit	Activities
1— ASP.NET Programming Model	<ul style="list-style-type: none"> • Content Covered: <ul style="list-style-type: none"> <i>ASP.NET 4 Unleashed:</i> <ul style="list-style-type: none"> ○ Chapter 1, “Overview of the ASP.NET Framework” • Labs: 1.1 • Assignments: 1.1 • Course Project Part 1
2— Web Page Design, Implementation, and Testing	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed:</i> <ul style="list-style-type: none"> ○ Chapter 2, “Using the Standard Controls” ○ Chapter 10, “Using List Controls,” pp. 439-460 • Labs: 2.1

Unit	Activities
	<ul style="list-style-type: none"> • Assignments: 2.1 • Course Project Part 2
3— Receiving and Validating Input	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 3, “Using the Validation Controls,” pp. 122-167 • Labs: 3.1 • Assignments: 3.1 • Course Project Part 3
4— Introduction to Data Access	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 8, “Overview of Data Access” ○ Chapter 9, “Creating Database Connections” ○ Chapter 11, “Using the GridView Control,” pp. 486-509 ○ Chapter 12, “Using the DetailsView and FormView Controls,” pp. 567-583 • Labs: 4.1 • Assignments: 4.1 • Course Project Part 4 • Quizzes: 4.1
5— Managing Data with Bound Controls	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 10, “Using List Controls,” pp. 461-484 ○ Chapter 11, “Using the GridView Control,” pp. 510-555 ○ Chapter 12, “Using the DetailsView and FormView Controls,” pp. 584-604 • Labs: 5.1 • Assignments: 5.1 • Course Project Part 5
6— Site Navigation and User Management	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 22, “Using the Navigation Controls” ○ Chapter 26, “Using the Login Controls” ○ Chapter 27, “Using ASP.NET Membership,” pp. 1205-1226 and 1246-1252 • Labs: 6.1 • Assignments: 6.1 • Course Project Part 6 • Exam I
7— Master Pages and Themes	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 5, “Designing Websites with Master Pages” ○ Chapter 6, “Designing Websites with Themes” • Labs: 7.1 • Assignments: 7.1 • Course Project Part 7
8— Building Components	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 17, “Building Components” ○ Chapter 19, “Building Data Access Components with ADO.NET,” pp. 843-888

Unit	Activities
	<ul style="list-style-type: none"> • Labs: 8.1 • Assignments: 8.1 • Course Project Part 8 • Quizzes: 8.1
9— Building Databound Components	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 18, “Using the ObjectDataSource Control,” pp. 771-778 and 783-795 ○ Chapter 19, “Building Data Access Components with ADO.NET,” pp. 888-934 • Labs: 9.1 • Assignments: 9.1 • Course Project Part 9
10— Managing State	<ul style="list-style-type: none"> • Read from <i>ASP.NET 4 Unleashed</i>: <ul style="list-style-type: none"> ○ Chapter 28, “Maintaining Application State” • Labs: 10.1 • Assignments: 10.1 • Course Project Part 10
11— Course Review and Exam II	<ul style="list-style-type: none"> • Review • Exam II

Instructional Methods

This curriculum is designed to promote a variety of teaching strategies that support the outcomes described in the course objectives and that foster higher cognitive skills. Delivery makes use of various media and delivery tools.

This course covers ASP.NET development. Students coming into the course must have a solid foundation in Visual Basic programming, HTML, and JavaScript. If you do not, you will need to spend some time refreshing your knowledge using resources in the ITT Technical Virtual Library.

In addition to programming skills, students learn some best practices in user interface design. Some activities are structured to allow students to create a design or program flow and critique the designs and program flows of other students. These critiques are important to help students learn how to give and receive constructive criticism. Remember to be open to learning from your peers.

Hands-on practice is an essential part of learning any programming language. This course includes labs that students complete individually. The labs require students to think about the code they are writing and answer questions about how it works.

Writing assignments give you a chance to explain concepts and work on your writing skills. You will also have the opportunity to prepare and present PowerPoint presentations about various ASP.NET programming issues.

The course project allows students to work in teams. Students build a Web application that allows users to read and post movie, music, book, and game reviews.

Instructional Materials and References

Student Textbook Package

- Walther, S., Kevin Hoffman, and Nate Duck. *ASP.NET 4 Unleashed*. Indianapolis, IN: Pearson Education, Inc., 2011.

Other Required Resources

In addition to the student textbook package, the following is also required in this course:

- Internet access

Equipment and Tools

- Windows XP Professional Service Pack 3 (on virtual machine)
- Visual Studio 2010 (on virtual machine)
- SQL Server 2008 Express with Advanced Services (on virtual machine)
- Microsoft Office (on host machine of lab computer)
- Microsoft Vision (on host machine of lab computer)

References

Log on to the ITT Tech Virtual Library at <http://www.library.itt-tech.edu/> to access online books, journals, and other reference resources selected to support ITT Tech curricula.

Books

You may click “Books” from the Main Menu or use the “Library Catalog” function on the home page to find the following books.

ITT Tech Virtual Library> Main Menu> Books> Books 24x7

- Dewson, Robin. *Beginning SQL Server 2005 for Developers: From Novice to Professional*. Berkeley, CA: Apress, 2006.
- Duckett, Jon. *Beginning Web Programming with HTML, XHTML, and CSS*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Esposito, Dino. *Introducing Microsoft ASP.NET 2.0*. Redmond, WA: Microsoft Press, 2005.
- Esposito, Dino. *Programming Microsoft ASP.NET 2.0 Core Reference*. Redmond, WA: Microsoft Press, 2006.
- Evjen, Bill, Scott Hanselman, Farhan Muhammad, Srinivasa Sivakumar, and Devin Rader. *Professional ASP.NET 2.0*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Evjen, Bill, Scott Hanselman, Farhan Muhammad, Srinivasa Sivakumar, and Devin Rader. *Professional ASP.NET 2.0 Special Edition*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Foggon, Damien. *Beginning ASP.NET 2.0 Databases: From Novice to Professional*. Berkeley, CA: Apress, 2006.
- Goodman, Danny, and Michael Morrison. *JavaScript Bible 6E*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Hart, Chris, John Kauffman, Dave Sussman, and Chris Ullman. *Beginning ASP.NET 2.0*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Kauffman, John, and Bradley Millington. *Beginning ASP.NET 2.0 and Databases*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Keogh, Jim. *ASP.NET 2.0 Demystified*. Emeryville, CA: McGraw-Hill\Osborne, 2005.
- Lowe, Doug, Jeff Cogswell, and Ken Cox. *ASP.NET 2.0 All-in-One Desk Reference for Dummies*. Hoboken, NJ: Wiley Publishing, Inc. 2006.
- MacDonald, Matthew. *Beginning ASP.NET in VB 2005: From Novice to Professional*. Berkeley, CA: Apress, 2006.
- Moroney, Laurence. *Pro ASP.NET 2.0 in VB 2005*. Berkeley, CA: Apress, 2006.

- Myers, Brian R. *Beginning Object-Oriented ASP.NET 2.0 with VB .NET: From Novice to Professional*. Berkeley, CA: Apress, 2005.
- Powell, Thomas A. *HTML & XHTML: The Complete Reference, 4E*. Emeryville, CA: McGraw-Hill\Osborne, 2003.
- Powell, Thomas, and Fritz Schneider. *JavaScript: The Complete Reference*. Emeryville, CA: McGraw-Hill\Osborne, 2001.
- Sanford, Jacob J., *Professional ASP.NET 2.0 Design: CSS, Themes, and Master Pages*, Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Schackow, Stefan. *Professional ASP.Net 2.0 Security, Membership, and Role Management*. Indianapolis, IN: Wiley Publishing, Inc., 2006.
- Selly, Dominic, Andrew Troelsen, and Tom Barnaby. *Expert ASP.Net 2.0 Advanced Application Design*. Berkeley, CA: Apress, 2006.
- Shepherd, George. *Microsoft ASP.Net 2.0 Programming Step by Step*. Redmond, WA: Microsoft Press, 2005.
- Tittel, Ed, Chelsea Valentine, Lucinda Dykes, and Mary Burmeister. *Mastering XHTML Premium Edition*. Alameda, CA: Sybex Inc., 2002.

ITT Tech Virtual Library> Main Menu> Books> NetLibrary

- Watt, Andrew. *Microsoft SQL Server 2005 for Dummies*. Hoboken, NJ: John Wiley & Sons, Inc., 2006.

Periodicals

You may click “Periodicals” or use the “Search” function on the home page to find the following periodicals.

ITT Tech Virtual Library> Main Menu> Periodicals>

- Digital Web Magazine
- MSDN Magazine

ITT Tech Virtual Library> Main Menu> Periodicals> ProQuest Computing>

- SQL Server Magazine
- Computer Weekly
- Dr. Dobbs Journal
- Inside Microsoft Visual Basic

References and Resources

ITT Tech Virtual Library> School of Study> School of Information Technology

- DevX
- Webopedia
- Free Online Dictionary of Computing

Learning Guides

ITT Tech Virtual Library> Main Menu> Learning Guides> Online Tutorials

- Tutorialized

Other References

The following resources may be found **outside** of the ITT Tech Virtual Library, whether online or in hard copy.

Websites

- Microsoft Developer Network (MSDN)

<http://msdn2.microsoft.com/en-us/default.aspx>

Vendor's portal to information and tutorials on multiple developer tools and languages, including ASP.NET

All links to web references outside of the ITT Tech Virtual Library are always subject to change without prior notice.

Course Evaluation and Grading

Evaluation Criteria Table

The final grades will be based on the following categories:

CATEGORY	WEIGHT
Assignments	10%
Labs	25%
Course Project	15%
Quizzes	10%
Exam I	20%
Exam II	20%
Total	100%

Note: Students are responsible for abiding by the Plagiarism Policy.

Grade Conversion Table

The final grades will be calculated from the percentages earned in the course, as follows:

A	90–100%	4.0
B+	85–89%	3.5
B	80–84%	3.0
C+	75–79%	2.5
C	70–74%	2.0
D+	65–69%	1.5
D	60–64%	1.0
F	<60%	0.0

(End of Syllabus)