msdn training

Introduction to C# Programming with Microsoft® .NET

Delivery Guide

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About This Course

This section provides you with a brief description of the course, audience, suggested prerequisites, and course objectives.

Description

This 5-day instructor-led course provides developers with the opportunity to learn the fundamental skills that are required to use C#, the Microsoft® .NET Framework, and the Microsoft Visual Studio® .NET development environment to build graphical object-oriented Web applications and applications based on Microsoft Windows®. This course teaches the concepts of development from a C# perspective and introduces C# programming language fundamentals.

This course is designed to be a hands-on, performance-based learning experience. Fifty percent of the students' time, therefore, is allocated to practices, which follow each lesson, and one or more labs at the conclusion of each module.

Note See Appendix A: Key Concepts Guide for an alphabetical listing of key concepts in this course.

All the applications that the students develop and use in the practices and labs are graphical, based either on Web Forms or Windows Forms. However, to provide enough room for complete code samples in the Student Workbook, some of the sample code is console based. Console-based code is also used in slides to save space.

Important This course offers optional practices and labs, in addition to optional tasks in each practice or lab, to provide a successful learning experience, allow instructional flexibility, and accommodate advanced learners.

The practices and labs in this course are categorized as follows:

- *Matching Practices*. Students independently match questions with available answers.
- *Hands-on Practices*. Students independently complete the assigned tasks.
- *Guided Practices*. The instructor allows the students a few minutes to begin working on their tasks and then guides the students through the practice by performing the tasks on the board or on the screen.
- *Optional* or *Advanced Labs*. The instructor or students choose a lab from the available options.

In addition, several advanced topics have been included in Appendix B: Advanced Topics.

Please also note that the students' install_folder is located at C:\Program Files\Msdntrain\2609.

Audience

This course is intended for developers who understand computer programming but may have learned programming by using a non-graphical language.

This course is also intended for developers of corporate applications who want to build applications by using C#; use the .NET Framework and C#, in addition to Microsoft Visual Basic® and Managed Extensions for C++; and eventually write highly functional Windows-based applications, Web applications, and XML Web services.

Student prerequisites

This course requires that students meet the following prerequisites:

- Be familiar and comfortable with basic operating system functions such as file manipulation.
- Understand the basics of structured programming, including concepts such as flow control, variables and parameters, and function calls.

  Course 1587, *Introduction to Programming with Microsoft Visual Basic 6*, may help students gain basic skills in programming techniques.
- Have at least three months of experience developing applications in either a graphical or non-graphical environment, or equivalent knowledge.
- Experience in object-oriented programming and concepts is not required.

Course objectives

After completing this course, the student will be able to:

- Configure and use the Visual Studio .NET integrated development environment (IDE).
- Create a Windows Forms project, by using the Windows Application template, with controls and code to respond to events.
- Use and create methods.
- Test and debug an application.
- Use object-oriented design techniques to design a .NET-based application.
- Create classes.
- Use C# techniques to enhance methods and classes.
- Use Microsoft ADO.NET to access and manipulate data in a database.
- Create a Web application by using Web Forms.
- Use an XML Web service in a C# application.
- Create a Windows-based application with multiple forms.
- Explore future learning.

Course Timing: 5 Days

The following schedule is an estimate of the course timing. Your timing may vary.

Day 1

Start	End	Module
8:30	9:00	Introduction
9:00	10:00	Module 1: Getting Started
10:00	10:30	Module 2: Understanding C# Language Fundamentals
10:30	10:45	Break
10:45	12:15	Module 2: Understanding C# Language Fundamentals *(continued)*
12:15	1:15	Lunch
1:15	2:15	Lab 2.1: Writing a Savings Account Calculator
2: 15	3:15	Module 3: Creating Objects in C#
3:15	3:30	Break
3:30	5:00	Module 3: Creating Objects in C# *(continued)*

Day 2

Start	End	Module
8:30	8:45	Day 1 review
8:45	9:15	Module 3: Creating Objects in C# *(continued)*
9:15	10:15	Lab 3.1: Creating Classes in C#
10:15	10:30	Break
10:30	12:00	Module 4: Implementing Object-Oriented Programming Techniques in C#
12:00	1:00	Lunch
1:00	1:30	Module 4: Implementing Object-Oriented Programming Techniques in C# *(continued)*
1:30	2:30	Lab 4.1: Creating Classes in C#
2:30	2:45	Break
2:45	5:00	Module 5: Programming with C#

Day 3

Start	End	Module
8:30	8:45	Day 2 review
8:45	10:30	Module 5: Programming with C# *(continued)*
10:30	10:45	Break
10:45	12:00	Module 5: Programming with C# *(continued)*
12:00	1:00	Lunch
1:00	1:45	Module 5: Programming with C# *(continued)*
1:45	2:45	Lab 5: Choose from one of the three available optional labs
2:45	3:00	Break
3:00	5:00	Module 6: Building .NET-based Applications with C#

Day 4

Start	End	Module
8:30	8:45	Day 3 review
8:45	9:45	Lab 6.1: Using Streams
9:45	10:00	Break
10:00	12:00	Module 7: Using ADO.NET to Access Data
12:00	1:00	Lunch
1:00	2:00	Lab 7.1: Creating a Data Access Application with ADO.NET
2:00	3:00	Module 8: Creating Windows-based Applications
3:00	3:15	Break
3:15	4:00	Module 8: Creating Windows-based Applications *(continued)*
4:00	5:00	Lab 8.1: Building Windows Applications

Day 5

Start	End	Module
8:30	8:45	Day 4 review
8:45	9:45	Module 9: Using XML Web Services in a C# Application
9:45	10:45	Lab 9.1: Using XML Web Services
10:45	11:00	Break
11:00	12:00	Module 10: Creating a Web Application with Web Forms
12:00	1:00	Lunch
1:00	2:00	Lab 10.1: Developing an ASP.NET Web Application
2:00	3:00	Module 11: Application Settings and Deployment
3:00	3:15	Break
3:15	4:15	Lab 11.1: Deploying an Application
4:15	5:00	Module 12: Exploring Future Learning

Course Timing: 3 Days

As an option, you can teach Module 1 through Module 6 autonomously in three days for a language-focused course.

The following schedule is an estimate of the course timing. Your timing may vary.

Day 1

Start	End	Module
8:30	9:00	Introduction
9:00	10:00	Module 1: Getting Started
10:00	10:30	Module 2: Understanding C# Language Fundamentals
10:30	10:45	Break
10:45	12:15	Module 2: Understanding C# Language Fundamentals *(continued)*
12:15	1:15	Lunch
1:15	2:15	Lab 2.1: Writing a Savings Account Calculator
2: 15	3:15	Module 3: Creating Objects in C#
3:15	3:30	Break
3:30	5:00	Module 3: Creating Objects in C# *(continued)*

Day 2

Start	End	Module
8:30	8:45	Day 1 review
8:45	9:15	Module 3: Creating Objects in C# *(continued)*
9:15	10:15	Lab 3.1: Creating Classes in C#
10:15	10:30	Break
10:30	12:00	Module 4: Implementing Object-Oriented Programming Techniques in C#
12:00	1:00	Lunch
1:00	1:30	Module 4: Implementing Object-Oriented Programming Techniques in C# *(continued)*
1:30	2:30	Lab 4.1: Creating Classes in C#
2:30	2:45	Break
2:45	5:00	Module 5: Programming with C#

Day 3

Start	End	Module
8:30	8:45	Day 2 review
8:45	10:30	Module 5: Programming with C# *(continued)*
10:30	10:45	Break
10:45	12:00	Module 5: Programming with C# *(continued)*
12:00	1:00	Lunch
1:00	1:45	Module 5: Programming with C# *(continued)*
1:45	2:15	Lab 5.1: Using Arrays
2:15	3:15	Module 6: Building .NET-based Applications with C#
3:15	3:30	Break
3:30	4:30	Module 6: Building .NET-based Applications with C# *(continued)*
4:30	5:30	Lab 6.1: Using Streams

Trainer Materials Compact Disc Contents

The Trainer Materials compact disc contains the following files and folders:

- *Autorun.exe.* When the compact disc is inserted into the compact disc drive, or when you double-click the **Autorun.exe** file, this file opens the compact disc and allows you to browse the Student Materials or Trainer Materials compact disc.
- *Autorun.inf.* When the compact disc is inserted into the compact disc drive, this file opens Autorun.exe.
- *Default.htm*. This file opens the Trainer Materials Web page.
- *Readme.txt*. This file explains how to install the software for viewing the Trainer Materials compact disc and its contents and how to open the Trainer Materials Web page.
- *2609A_ms.doc.* This file is the Manual Classroom Setup Guide. It contains the steps for manually setting up the classroom computers.
- *2609A_sg.doc*. This file is the Automated Classroom Setup Guide. It contains a description of classroom requirements, classroom configuration, instructions for using the automated classroom setup scripts, and the Classroom Setup Checklist.
- *Powerpnt*. This folder contains the Microsoft PowerPoint® slides that are used in this course.
- *Pptview.* This folder contains the Microsoft PowerPoint Viewer 97, which can be used to display the PowerPoint slides if Microsoft PowerPoint 2002 is not available. Do not use this version in the classroom.
- *Setup*. This folder contains the files that install the course and related software to computers in a classroom setting.
- *StudentCD.* This folder contains the Web page that provides students with links to resources pertaining to this course, including additional reading, review and lab answers, lab files, multimedia presentations, and course-related Web sites.
- *Tools*. This folder contains files and utilities used to complete the setup of the instructor computer.
- *Webfiles*. This folder contains the files that are required to view the course Web page. To open the Web page, open Windows Explorer, and in the root directory of the compact disc, double-click **Default.htm** or **Autorun.exe**.

Student Materials Compact Disc Contents

The Student Materials compact disc contains the following files and folders:

- *Autorun.exe.* When the compact disc is inserted into the CD-ROM drive, or when you double-click the **Autorun.exe** file, this file opens the compact disc and allows you to browse the Student Materials compact disc.
- *Autorun.inf.* When the compact disc is inserted into the compact disc drive, this file opens Autorun.exe.
- *Default.htm*. This file opens the Student Materials Web page. It provides you with resources pertaining to this course, including additional reading, review and lab answers, lab files, multimedia presentations, and course-related Web sites.
- *Readme.txt*. This file explains how to install the software for viewing the Student Materials compact disc and its contents and how to open the Student Materials Web page.
- *2609A_ms.doc*. This file is the Manual Classroom Setup Guide. It contains a description of classroom requirements, classroom setup instructions, and the classroom configuration.
- *Flash.* This folder contains the installer for the Macromedia Flash 5.0 browser plug-in.
- *Fonts*. This folder contains fonts that may be required to view Microsoft Word documents that are included with this course.
- *Labfiles*. This folder contains files that are used in the hands-on labs. These files may be used to prepare the student computers for the hands-on labs.
- *Media*. This folder contains files that are used in multimedia presentations for this course.
- *Mplayer*. This folder contains the setup file to install Microsoft Windows Media™ Player.
- *Practices*. This folder contains files that are used in the hands-on practices.
- *Samples*. This folder contains code samples that are associated with this course.
- *Webfiles.* This folder contains the files that are required to view the course Web page. To open the Web page, open Windows Explorer, and in the root directory of the compact disc, double-click **Default.htm** or **Autorun.exe**.
- *Wordview*. This folder contains the Word Viewer that is used to view any Word document (.doc) files that are included on the compact disc.

Document Conventions

The following conventions are used in course materials to distinguish elements of the text.

Convention	Use
Bold	Represents commands, command options, and syntax that must be typed exactly as shown. It also indicates commands on menus and buttons, dialog box titles and options, and icon and menu names.
Italic	In syntax statements or descriptive text, indicates argument names or placeholders for variable information. Italic is also used for introducing new terms, for book titles, and for emphasis in the text.
Title Capitals	Indicate domain names, user names, computer names, directory names, and folder and file names, except when specifically referring to case-sensitive names. Unless otherwise indicated, you can use lowercase letters when you type a directory name or file name in a dialog box or at a command prompt.
ALL CAPITALS	Indicate the names of keys, key sequences, and key combinations—for example, ALT+SPACEBAR.
`monospace`	Represents code samples or examples of screen text.
[ ]	In syntax statements, enclose optional items. For example, [*filename*] in command syntax indicates that you can choose to type a file name with the command. Type only the information within the brackets, not the brackets themselves.
{ }	In syntax statements, enclose required items. Type only the information within the braces, not the braces themselves.
|	In syntax statements, separates an either/or choice.
▶	Indicates a procedure with sequential steps.
...	In syntax statements, specifies that the preceding item may be repeated.
. . .	Represents an omitted portion of a code sample.