

Course Description: This five-day instructor-led course enables introductory-level developers who are not familiar with the Microsoft .NET Framework or Microsoft Visual Studio 2005 to gain familiarity with the Visual Studio 2005 development environment. Students will also learn basic skills using either Microsoft Visual Basic or Microsoft Visual C# as a programming language.

Who Should Attend: The target audience for this course includes both novice programmers who have a minimum of three months' programming experience and intermediate-level programmers who are otherwise new to .NET Framework development, and want to learn how to use Visual Basic or C#.

Prerequisites: Before attending this course, students must have exposure to developing applications in either a graphical or a non-graphical environment. They also should have the ability to understand and apply the basics of structured programming, including concepts such as flow control, variables, parameters, and function calls. In addition, it is recommended, but not required, that students have completed an introductory programming course.

Benefits of Attendance: Upon completion of this course, students will be able to:

- Describe the key features of the .NET Framework and Visual Studio 2005.
- Create a simple Windows Forms application.
- Explain programming fundamentals.
- Create and use data types and variables.
- Control program execution by using conditional statements and loops.
- Explain the fundamentals of object-oriented programming.
- Create simple object-oriented applications.
- Develop the user interface in a Visual Studio 2005 application.
- Validate user input on a Windows form.
- Implement debugging and exception handling in a Visual Studio 2005 application.
- Access data in a Visual Studio 2005 application.
- Create simple Web applications and XML Web services.
- Explain the key features of the .NET Framework version 3.0 technologies.
- Test and deploy Microsoft .NET Framework applications.

Course Outline:

Module 1: Getting Started

Introduction to Microsoft .NET and the .NET Framework
Introduction to the Software Development Life Cycle
Exploring Visual Studio 2005
Lab 1: Getting Started
Working in the Development Environment

Module 2: Creating a Simple Windows Forms Application

Creating a Windows Forms Project
Adding Controls to a Windows Forms Project
Compiling and Running a Windows Forms Project
Lab 2: Creating a Simple Windows Forms Application
Creating a Windows Forms Application
Adding Controls to the Main Form
Compiling and Testing the Application

Module 3: Programming Fundamentals

Understanding Programming Concepts
Defining Program Structure and Flow
Styling and Writing Code
Lab 3: Programming Fundamentals
Displaying the Current Date on a Form
Adding a New Form to the Application
Adding Controls to the New Form

Module 4: Data Types and Variables

Introduction to Data Types
Defining and Using Variables
Defining and Using Collections
Converting Data Types
Lab 4: Data Types and Variables
Implementing Variables and Constants
Implementing Arrays and Enumerations

Module 5: Controlling Program Execution

Writing Expressions
Creating Conditional Statements
Creating Iteration Statements
Lab 5: Controlling Program Execution
Checking User Input
Enabling and Disabling Controls

Module 6: Fundamentals of Object-Oriented Programming

Introduction to Object-Oriented Programming
Defining a Class

Creating a Class Instance
Lab 6: Fundamentals of Object-Oriented Programming
Creating a SalesPerson Class
Creating and Using a SalesPerson Object

Module 7: Creating Object-Oriented Applications

Designing Classes with the Class Designer Tool
Implementing Inheritance
Defining and Implementing Interfaces
Lab 7: Creating Object-Oriented Applications
Creating a Base Class
Creating Derived Classes

Module 8: Building a User Interface

Managing Forms and Dialog Boxes
Creating Menus and Toolbars
Providing User Assistance
Lab 8: Building a User Interface
Adding a Menu and a Toolbar to an Application
Adding a Status Bar and Tooltips to an Application

Module 9: Validating User Input

Restricting User Input
Implementing Field-Level Validation
Implementing Form-Level Validation
Lab 9: Validating User Input
Adding an ErrorProvider Component to a Form
Providing Visual Cues to the User by Enabling an OK Button

Module 10: Debugging and Exception Handling

Types of Errors
Debugging Applications
Handling Exceptions in Applications
Lab 10: Debugging and Exception Handling
Detecting Logic Errors
Handling Run-Time Errors

Module 11: Accessing Data

Overview of Data Access
Accessing Data by Using the Visual Studio 2005 Integrated Development Environment
Programmatic Access to Data
Lab 11: Accessing Data
Displaying Data by Using a DataGridView Control
Access Data Programmatically by Using ADO.NET

Module 12: Creating Web Applications and XML Web Services

Creating Web Applications
Creating and Using XML Web Services
Lab 12: Creating Web Applications and XML Web Services
Creating a Web Application
Creating and Using an XML Web Service

Module 13: Exploring .NET Framework 3.0 Technologies

Introduction to the .NET Framework 3.0 Technologies
Introduction to Windows Presentation Foundation
Introduction to Windows Communication Foundation
Lab 13: Exploring .NET Framework 3.0 Technologies
Building a Windows Presentation Foundation Application
Building a Windows Communication Foundation Service
Accessing a Windows Communication Foundation Service from a Windows Presentation Foundation Client

Module 14: Testing and Deploying Microsoft .NET Framework Applications

Overview of Testing
Creating Object Test Bench Objects
Deploying Microsoft .NET Framework Applications
Lab 14: Testing and Deploying Microsoft .NET Framework Applications
Testing an Application
Deploying an Application by Using ClickOnce
Deploying an Application by Using Windows Installer