

# Course Outline



Tel: +44 (0) 118 979 4000 Fax: +44 (0) 118 979 4000

Email: [training@ptr.co.uk](mailto:training@ptr.co.uk) Web: [www.ptr.co.uk](http://www.ptr.co.uk)

## Microsoft Visual C# 2005: Developing Applications

### Course Description:

In this course you will learn how to use Visual Studio 2005 and Visual C# 2005 to build Windows applications to run on the .NET 2.0 platform.

You will become familiar with the Windows Forms and Windows Forms controls, focusing on new Visual Studio 2005 features. Access data using ADO.NET and its DataTable, DataReader, DataAdapter, and DataSet classes.

Take advantage of new Visual Studio 2005 data binding features, and explore the range of controls and components provided by Visual Studio 2005. Build solid applications using structured exception handling, and debug your applications using new Visual Studio 2005 debugging features.

Access legacy code in COM components, Win32 APIs using P/Invoke, and remote code in Web Services. Add professional-looking menus and toolbars using the new ToolStrip controls, and add unprecedented flexibility to your user interfaces using the new container controls. Deploy and maintain your application easier than ever before, taking advantage of Click-Once deployment.

### Pre-requisites:

This course is for Programmers who will be developing in Visual C# Applications and assumes that students have at least 1-2 years programming experience in either C, C++, C#, Java, Visual Basic, Perl or Fortran background. No specific experience with Visual Studio, the .NET Framework.

### Course Content:

- **Introduction to Windows Forms**
  - .NET Does Windows
  - Adding Controls to a Form
  - A Peek behind the Scenes
  - Adding Event Handling Code
  - Adding a Menu to the Form
  - Adding Non-Graphical Components

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Registered Office: Grenville Court Britwell Road Burnham Bucks SL1 8DF Company Registered No: 2442290 – VAT registration No:532 1929 56

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- **Taking Advantage of the Form Event Model**
  - **Common Windows Forms Controls**
  - **Exception Handling**
  - **Working with Strings and Dates**
  - **Accessing Data**
  - **Data Binding Techniques**
- How Visual C# Handles Events
  - Exploring Form and Control Events
  - Label, TextBox, and Button
  - CheckBox and RadioButton
  - ComboBox, ListBox, and CheckedListBox
  - LinkLabel, NumericUpDown, PictureBox and ProgressBar
  - Perspectives on Exception Handling
  - Getting Started with Exception Handling
  - Catching Specific Exceptions
  - Raising Errors
  - Running Code Unconditionally
  - Handling Unhandled Exceptions
  - Creating Exception Classes
  - Basic .NET Data Types
  - Working with Text: The String Class
  - Working with Dates and Times
  - Overview of ADO.NET
  - Connecting to Data
  - Executing Commands
  - Working with Data
  - Choosing an ADO.NET Provider
  - Data Binding Basics
  - Creating a Data Source
  - Creating Data-Bound Forms
  - Data Binding Components and Controls
  - Displaying Data from Related Tables
  - Displaying Data from Lookup Tables
  - Adding Search Capabilities to a Form

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- **Data Binding Techniques**
  - Filtering by Values from a Lookup Table
  - Working with Local Data
  - Data Validation
  - Working with Local Data
- **Using the Data Controls**
  - Data Controls
  - The BindingNavigator Control
  - The BindingSource Control
  - The DataGridView Control
  - The ReportViewer Control
- **Handling Input/Output Tasks**
  - Introducing the System.IO Namespace
  - Selecting Files
  - Browsing for Folders
  - Handling Path Information
  - Working with Directories and Files
  - Using Stream-Based Objects to Read and Write File Contents
- **Project Settings in Visual Studio 2005**
  - The Project Designer
  - Application Properties
  - Compilation Properties
  - Debugging Properties
  - Project References
  - Project Resources
  - Project Settings
- **Debugging Your Applications**
  - Debugging Applications
  - Setting Breakpoints and Stepping through Code
  - Evaluating Variables and Objects
  - Edit and Continue
  - Debugging Code in Assemblies
  - Tracing and Instrumenting Applications

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- **Debugging Your Applications**
- **Container Controls**
  - Introducing Container Controls
  - Grouping Controls with the GroupBox Control
  - Introducing the Panel Control
  - Displaying Multiple Panels with the SplitContainer Control
  - Laying Out Panels with the TabControl Control
  - Simple Layout Using the FlowLayoutPanel Control
  - Advanced Layout Using the TableLayoutPanel Control
- **Menus and Toolbars**
  - Introducing the ToolStrips
  - Working with the ToolStrips
- **Creating MDI Applications**
  - MDI Applications
  - MDI Parent and Child Forms
  - Managing Open Windows
  - Managing Menus
  - Working with Open Forms
- **Complex Windows Forms Controls**
  - Introducing Complex Controls
  - NotifyIcon Control
  - WebBrowser Control
  - MaskedTextBox Control
  - RichTextBox Control
  - TreeView and ListView Controls
  - MonthCalendar and DateTimePicker Controls

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- **Creating Custom Controls**
  - Control Creation in Windows Forms
  - Inheriting from an Existing Control
  - Drawing Your Own Custom Controls
  - Creating Composite Controls
  
- **Working with ToolBox Components**
  - Introducing Components
  - FileSystemWatcher Component
  - Process Component
  - EventLog Component
  
- **More ToolBox Components**
  - Timer Component
  - BackgroundWorker Component
  - PerformanceCounter Component
  - ServiceController Component
  
- **Interoperability**
  - COM and .NET
  - Calling COM Objects from .NET
  - Calling .NET Assemblies from COM
  - Using Platform Invoke
  - Web Services
  
- **Deploying Applications using Click-Once**
  - ClickOnce Deployment
  - Publishing an Application
  - Setting Publish Options
  - Updating a Deployed Application
  - What Happens When You Publish an Application?
  - What Happens When You Publish an Update to an Application?
  - ClickOnce and Security
  - Using the Deployment API to Manage Updates

**Course Duration:**

**5 Days**

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