Object Oriented Programming Using C# Level 1

Course ISI-1457C 5 Days Instructor-led, Hands-on

Introduction

After completing the two courses in this series, students will find have the core C# and Visual Studio skills needed to develop any C# application…whether for Windows, the web, or mobile devices.

This five-day, instructor-led course is appropriate to those who are new to programming or to Microsoft's .NET development environment, as well as experienced .NET developers who are new to C#. It is also appropriate if you have programming experience with another language like Java, C++, or COBOL.

This course starts you off using all the best features of Visual Studio so you can begin productive work almost immediately. Object-oriented programming is made clear as business objects are presented as customers, invoices and products, so you can see how OOP is used to create multi-tiered applications in the real world

The course builds your skills in incremental steps to teach you how to validate data, handle numeric, date and string data, work with loops, arrays and collections, code methods and event handlers, handle exceptions, validate data, handle numeric, date and string data, work with loops, arrays, and collections; code methods and event handlers, handle exceptions, and work with files and databases.

At Course Completion

After completing this course, students will be able to understand all the new language features that make C# such as outstanding development tool:

Get going fast with the C# essentials:

- Create your first Windows Forms applications using C#, Visual Studio and the .NET Framework
- Master essential C# programming skills, including structured exception handling, string handling and event wiring
- Learn how to write data validation routines to create bulletproof applications
- Discover essential .NET classes, such as Math, Array, StringBuilder and the typed collection classes
- Use powerful VS tools like Live Code Analysis to identify potential coding problems and improve your code
- Gain the debugging skills to track down elusive coding errors
- Create fully object-oriented programs, complete with business and data access classes

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- Add professional features to your classes, such as delegates, events, indexes and overloaded operators
- Cut through the mystery of inheritance and polymorphism as you build more sophisticated classes
- Understand and use interfaces, structures and class libraries.

Prerequisites

Before attending this course, students should have the following skills and knowledge:

- This course is appropriate for students new to the .NET environment
- This course is appropriate for students who have programming experience with another language like Java, C++ or COBOL.

Course Materials

The student kit includes a workbook and other necessary materials for this class.

Course Outline

Module 1: How to Get Started with Visual Studio

- An introduction to .NET development
- A tour of the Visual Studio IDE
- How to test a project

Module 2: How to Design a Windows Forms Applications

- How to get started
- How to design a form
- How to finish your design

Module 3: How To Code and Test a Windows Forms Application

- An introduction to coding
- How to add code to a form
- More coding skills
- How to run, test and debug a project

Module 4: How to Work with Numeric and String Data

- How to work with the built-in value types
- How to work with strings
- How to convert data types
- Three other skills for working with data

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Module 5: How to Code Control Structures

- How to code Boolean expressions
- How to code conditional statements and expressions
- How to code loops

Module 6: How to Code Methods and Event Handlers

- How to code and call methods
- How to work with tuples
- How to work with events and delegates

Module 7: How to Handle Exceptions and Validate Data

- An introduction to exceptions
- How to use structured exception handling
- How to validate data

Module 8: How to Use Arrays and Collections

- How to work with one-dimensional arrays
- How to work with rectangular arrays
- How to work with jagged arrays
- More skills for working with arrays
- How to work with collections

Module 9: How to work with dates and strings

- How to work with dates and times
- How to work with strings
- How to format numbers, dates and times

Module 10: More skills for Working with Windows Forms and Controls

- How to work with controls
- How to work with multi-form projects
- How to use the MessageBox class

Module 11: How to Debug an application

- Basic debugging techniques
- How to use the debugging windows

Module 12: How to Create and Use Classes

- An introduction to classes
- Basic skills for creating a class
- The Product Maintenance application

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- More skills for creating a class
- How to browse, diagram and display and edit classes
- How to work with structures