

Object Oriented Programming Using C# - Level 2

Course ISI-1458C 5 Days Instructor-led, Hands-on

Introduction

This course is the second in a series of two courses, which are appropriate for those who are new to programming C#. It is also appropriate if you have programming experience with another language like Java, C++, or COBOL.

This course shows you how to use business classes, inheritance, and interfaces the way they're used in the real world. It's a data programming course that shows how to create professional database applications using data sources, ADO.NET code, and the Entity Framework, as well as how to use LINQ to query data structures, from collections to arrays to datasets.

Students will be able to develop 3-tiered, object-oriented Windows Forms applications the way the best professionals do. And you'll have the core C# and Visual Studio skills that you need to develop any C# application...whether for Windows, the web, or mobile devices.

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:

Confidence in handling business requirements

- Learn how to validate data, handle numeric, date and string data, work with loops, arrays and collections, code methods and event handlers, handle exceptions and work with text, binary and XML data.

A solid grounding in database programming

- Use C# tools for rapid application development, like the data sources feature and data handling controls. Introductions to ADO.NET coding and to LINQ, a feature that lets you query almost any data source, not just databases, using the C# language.

Business requirements

- Work with complete, non-trivial applications that illustrate what you need to know on the job.

Contact ISInc for more information at 916.920.1700 or by visiting our website at <http://www.isinc.com>

Prerequisites

Before attending this course, students should have attended Course ISI-1456C, Object Oriented Programming Using C# Level 1, or have equivalent knowledge and skills.

Course Materials

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

Course Outline

Module 1: How to work with indexers, delegates, events and operators

- An introduction to the ProductList class
- How to work with indexers
- How to work with delegates and events
- How to overload operators
- An enhanced version of the Product Maintenance application

Module 2: How to work with inheritance

- An introduction to inheritance
- Basic skills for working with inheritance
- Object types and casting
- How to work with abstract and sealed classes

Module 3: How to work with interfaces and generics

- How to work with interfaces
- How to work with generics

Module 4: How to organize and document your classes

- How to organize your classes
- How to document your classes
- How to create and use class libraries
- How to implement unit testing

Module 5: How to Work with File I/O

- An introduction to the System.IO classes
- How to work with text files
- How to work with binary files

Module 6: How to use LINQ

- Basic concepts for working with LINQ

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- How to code query expressions
- How to use extension methods and lambda expressing

Module 7: An Introduction to database programming

- An introduction to client/server systems
- An introduction to relational databases
- How to use SQL to work with a relational database

Module 8: How to use Entity Framework Core

- How to create an Entity Data Model
- How to use LINQ to Entities
- How to use EF to modify a database
- How to bind controls

Module 9: How to work use ADO.NET to write your own data access code

- An introduction to ADO.NET
- How to work with connections and commands
- How to create and work with parameters
- How to execute commands

Module 10: How to use the DataGridView control

- How to display data in a DataGridView control
- How to work with columns and events
- How to provide paging for a DataGridView control
- How to create a Master/Detail form