

## **Programming C#: Intermediate**

**Modality: Self-Paced Learning**

**Duration: 8 Hours**

### **About this course:**

The Programming C# 6: Intermediate course builds on the concepts taught in the C# Fundamentals course and covers the more advanced tools, techniques and technologies used by modern enterprise applications. The course topics include building new data types, handling events, setting precedence, default and null values, working with XML and file I/O, implementing controlled looping and creating classes and objects.

This course teaches the students to develop the more advanced programming skills that are required for developers to create enterprise Windows applications using the C# language. During this course, the students learn the core concepts of C# program structure, language syntax, and implementation details, and then consolidate their knowledge as they build a real-world graphical user interface application.

### **Course Objective:**

- Describe and understand the core syntax of C#
- Learn and implement types and operators
- Understand operators and precedence
- Work with strings and dates
- Use conditional and unconditional branching
- Implement and use objects and classes in code

### **Audience:**

- Experienced software developers looking to enhance their knowledge of C# and Microsoft Visual Studio and .NET framework.
- Candidates with understanding of Java, C++, Microsoft Visual Basic and Objective-C.
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### **Prerequisite:**

- This mid-career level course requires the students to have a basic understanding of C# programming language.
- A six months programming experience in an object-oriented environment is also necessary for the candidates to fully grasp the contents of this course.

### **Course Outline:**

#### **Chapter 01 - Types and Operators**

- **Topic A: Converting Data Types - Part 1**
- Converting Data Types - Part 2
- Converting Data Types - Part 3
- **Topic B: Using Convert Or Parse - Part 1**
- Using Convert Or Parse - Part 2
- Using Convert Or Parse - Part 3
- **Topic C: Value and Reference Types - Part 1**
- Value and Reference Types - Part 2
- Value and Reference Types - Part 3
- **Topic D: Operators - Part 1**
- Operators - Part 2
- Operators - Part 3

## Chapter 02 - Precedence and Nulls

- **Topic A: Logical Operators & Precedence - Part 1**
- Logical Operators & Precedence - Part 2
- Logical Operators & Precedence - Part 3
- **Topic B: Nulls and Default Values - Part 1**
- Nulls and Default Values - Part 2
- Nulls and Default Values - Part 3
- **Topic C: Null Handling Operators - Part 1**
- Null Handling Operators - Part 2
- Null Handling Operators - Part 3
- **Topic D: Nullable Data Types - Part 1**
- Nullable Data Types - Part 2
- Nullable Data Types - Part 3

## Chapter 03 - XML and File I/O

- **Topic A: .NET Framework Classes - Part 1**
- .NET Framework Classes - Part 2
- .NET Framework Classes - Part 3
- **Topic B: Working with XML - Part 1**
- Working with XML - Part 2
- Working with XML - Part 3
- **Topic C: File Input and Output - Part 1**
- File Input and Output - Part 2
- File Input and Output - Part 3

## Chapter 04 - Strings and Dates

- **Topic A: Working with Strings - Part 1**
- Working with Strings - Part 2
- Working with Strings - Part 3
- **Topic B: Methods of String Class - Part 1**
- Methods of String Class - Part 2
- Methods of String Class - Part 3

- **Topic C: Formatting Strings - Part 1**
- Formatting Strings - Part 2
- Formatting Strings - Part 3
- **Topic D: Using StringBuilder - Part 1**
- Using StringBuilder - Part 2
- Using StringBuilder - Part 3
- **Topic E: Working with Dates and Times - Part 1**
- Working with Dates and Times - Part 2
- Working with Dates and Times - Part 3
- **Topic F: Using TimeSpan Structure - Part 1**
- Using TimeSpan Structure - Part 2
- Using TimeSpan Structure - Part 3

## Chapter 05 - Conditionals and Looping

- **Topic A: Conditional Branching - Part 1**
- Conditional Branching - Part 2
- Conditional Branching - Part 3
- **Topic B: Switch Statements - Part 1**
- Switch Statements - Part 2
- Switch Statements - Part 3
- **Topic C: Repeating Code Blocks - Part 1**
- Repeating Code Blocks - Part 2
- Repeating Code Blocks - Part 3
- **Topic D: Controlled Looping - Part 1**
- Controlled Looping - Part 2
- Controlled Looping - Part 3
- **Topic E: Unconditional Branching - Part 1**
- Unconditional Branching - Part 2
- Unconditional Branching - Part 3

## Chapter 06 - Objects and Classes

- **Topic A: Objects and Classes - Part 1**
- Objects and Classes - Part 2
- Objects and Classes - Part 3
- **Topic B: Class Properties and Methods - Part 1**
- Class Properties and Methods - Part 2
- Class Properties and Methods - Part 3
- **Topic C: Creating a Class - Part 1**
- Creating a Class - Part 2
- Creating a Class - Part 3
- **Topic D: Visual Studio for Classes - Part 1**
- Visual Studio for Classes - Part 2
- Visual Studio for Classes - Part 3
- **Topic E: Implement Class Code - Part 1**
- Implement Class Code - Part 2
- Implement Class Code - Part 3

- **Topic F: Add Class Methods - Part 1**
- Add Class Methods - Part 2
- Add Class Methods - Part 3