



# Beginning Modern C# and .Net Development

Course ID #: 1100-517-17-w

Hours: 21

## Course Content

### Course Description:

The release of .NET Core means that cross-platform development with C# is finally here. In this fast-paced practical course you'll work through a rapid introduction to C# followed up by an overview of .NET in the context of two real-world applications.

Each component of the course has been carefully designed to build skills and capabilities that are in high commercial demand. You'll learn how to build and deploy Universal Windows Platform applications for desktop environments, as well as cutting-edge web development techniques with ASP.NET Core MVC. As you progress you'll find helpful tips and tricks, as well as useful self-assessment material, exercises and activities to help benchmark your progress and reinforce what you've learned.

If you're a pragmatic developer with a few years of experience working with another object-oriented programming language, this course will equip you with the skills you need to succeed with C# and .NET in the modern workplace.

### At Course Completion:

The course will initially begin with familiarizing you to the different .NET technologies and Visual Studio 2017. Beginning from the basic concepts of declaring and working with variables, we move on to writing code that makes decisions, repeats a block of statements, converts between types, and handles errors.

You will also learn about .NET Core and its class library assemblies, and packages of types that are defined in .NET Standard that allow your applications to connect existing components together to perform common practical tasks. You will then learn to make your own types using object-oriented programming (OOP) and learn how to read and write to databases.

You will then see what can be achieved with Extensible Application Markup Language (XAML) when defining the user interface for a graphical app, in particular, for Universal Windows Platform (UWP). Finally, we look at building web applications with a modern HTTP architecture on the server side using Microsoft ASP.NET Core MVC.



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## Target Student:

This course is targeted at professional software developers or programming and developer enthusiasts wanting to get started with building and deploying advanced applications using the modern-day .NET framework. The prospective students will be taught about the intricacies of .NET and other associated technologies such as C#, and ASP.NET.

It is imperative that a prospective student is well acquainted with basic object-oriented programming principles. Additionally, it is advised, though not completely necessary, that one possess a very basic idea of the .NET stack before commencing with this course.

## Topics:

### Lesson 1: An Overview of Visual Studio 2017

- Understanding .NET
- Fundamentals of Visual Studio 2017

### Lesson 2: Introducing C#

- Exploring the Basics of C#
- Declaring Variables
- Building Console Applications

### Lesson 3: Controlling the Flow, Converting Types, and Handling Exceptions

- Understanding Selection Statements
- Understanding Iteration Statements
- Casting and Converting Between Types
- Handling Exceptions
- Checking for Overflow

### Lesson 4: Using .NET Standard Types

- Using Assemblies and Namespaces
- Debugging and monitoring
- Storing Data with Collections
- Debugging Tools
- Monitoring Performance and Resource Usage

### Lesson 5: .NET Deep Dive

- Understanding OOP
- Building Class Libraries
- Implementing Interfaces and Inheriting Classes

### Lesson 6: Databases

- Relational Database Management Systems
- Working with Entity Framework Core
- Understanding Universal Windows Platform

### Lesson 7: Building Universal Windows Platform Apps Using XAML

- Understanding Universal Windows Platform
- Understanding XAML
- Creating an Application for UWP
- Using Resources and Templates
- Data Binding
- Animating with Storyboards
- Testing in Emulators

### Lesson 8: Building Web Applications Using ASP.NET Core MVC

- Understanding ASP.NET Core
- Exploring an ASP.NET Core MVC Web Application
- ASP.NET Core MVC Controllers
- ASP.NET Core MVC Models
- ASP.NET Core MVC Views
- Taking ASP.NET Core MVC Further