





# C# Programming BT113

**40** Academic Hours

# .NET Programming

### Outline

This C#.NET training teaches non-experienced people how to create the Solutions/Applications using C#.NET. C#.NET is Microsoft's entry into the world of managed programming. Using a syntax that is deliberately from Java, C++ and C, C#.NET achieves a natural trade-off of terseness and clarity, enabling programmers to express concepts in a clear and maintainable form. The recent enhancements to the language have made it even more powerful than before, allowing programmers to work with C#.NET in both an Object-Oriented and partially functional style.



### Target Audience

Non-Programmers who want to make their processional upgrade to the programming world



## Prerequisites

There are no prerequisites for this course.





# Module 01 Programming Basics & C# Basics

- Algorithm
- Loops
- Flow Diagram
- Declarations
- Initialize
- Pseudo Code
- Variables
- Functions
- Conditions

### Module 02 Introducing C# & the .NET Framework

- Introduction to the .NET Framework
- Creating Projects Within Visual Studio 2015
- Writing a C# Application
- Documenting an Application
- Running and Debugging Applications by Using Visual Studio 2015
- Programming best practices

# Module 03 Using C# Programming Constructs

- Declaring Variables and Assigning Values
- Using Expressions and Operators
- Creating and Using Arrays
- Using Decision Statements
- Using Iteration Statements

# Module 04 Declaring and Calling Methods

- Defining and Invoking Methods
- Specifying Optional Parameters and Output Parameters

### Module 05 Handling Exceptions

- Handling Exceptions
- Raising Exceptions

# Module **86**Reading and Writing Files

- Accessing the File System
- Reading and Writing Files by Using Streams

# Module 07 Creating New Types

- Creating and Using Enumerations
- Creating and Using Structs

# Module 08 Encapsulating Data and Methods

- Controlling Visibility of Type Members
- Sharing Methods and Data



### Module 09 Classes & Objects

- Class vs. Object
- Constructors
- Comparing References to Values
- Defining and Using Classes
- Working with Partial Classes

### Module 10

### **Object Oriented Concepts**

- I Encapsulation
- Inheritance
- Polymorphism
- Interfaces

### Module 11 Collections and Generics

- Understanding .NET Collections
- Ordered vs. Unordered Collections
- Data Structures: ArrayList ,Stack , Queue, HashTable

# Module 12 GUI Development (If time permits)

- Event Driven Applications
- Forms
- I Common controls
- Application navigation



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Applications using C#.NET."



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info@hackerupro.com



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