

Introduction to .NET Programming Training

Course: 502

- Duration: **3 days**
- Lab: **Yes**
- Language: **English**
- Level: **Foundation**

This **Introduction to .NET Programming training** course provides hands-on programming experience in C# or VB.NET for individuals with little or no software development background. Using the latest technology and the popular Visual Studio development environment, the training produces all three levels of a complete application. Starting with the most fundamental elements of computer programming, you learn how to write, debug and test code to generate graphical user interfaces, implement controllers for business logic and access relational databases - all of the elements of virtually any program.

Participants can use either C# or VB – the Microsoft .NET core languages. Both include database access using Language Integrated Query (LINQ) via the industry-leading Entity Framework (EF).

Of special note, this course combines adaptive learning (AdaptaLearn) with the use of Generative AI (Chat.OpenAI) to accelerate your pace of learning and ensure you are highly productive the moment you return to work. A post-course AI-driven hands-on practicum is provided for ongoing practice and improvement.

Introduction to .NET Programming Training Delivery Methods

- In-Person
- Online
- Upskill your whole team by bringing Private Team Training to your facility.

Introduction to .NET Programming Training Course Information

In this .NET Programming course, you will learn how to:

- Demonstrate the fundamental aspects of modern computer programming.
- Design, debug, test and implement complete Windows applications.
- Write object-oriented logic using C# and Visual Basic (classes and libraries).
- Combine Visual Studio with Generative AI to use modern co-pilot development techniques.
- Build LINQ queries to access SQL Server databases via the Entity Framework (EF).
- Leverage Microsoft .NET Core to produce effective event-driven graphical user interfaces.

.NET Programming Course Prerequisites

Students should have basic computer literacy, including using the Windows operating system and

accessing Web applications and other computer programs. Prior programming experience is not necessary.

Introduction to .NET Programming Training Course Outline

Module 1: Starting to Programme

Principles of Programming

- Writing a procedural program.
- Transitioning to the object-oriented philosophy.
- Coding using fundamental C# (C Sharp) or VB (Visual Basic) syntax and semantics.
- Reviewing, compiling, and executing a programme in Visual Studio.

Using Visual Studio

- Creating projects and solutions
- Editing, compiling, and running a program.

Module 2: VB and C# Language Syntax

Coding object-oriented applications

- Dividing code into classes
- Adding fields, methods, and properties
- Defining code layout and limiting scope
- Instantiating objects

Working with data types and conversions

- Strings
- Dates and time
- Integers
- Real numbers
- Booleans
- Performing calculations with mathematical operators
- Converting between data types

Controlling programme execution

- IF statements
- Writing complex criteria expressions
- CASE (switch) statements
- For...Next loops
- Do While...loops

Module 3: Event-Driven Graphical User Interfaces

Designing and implementing user interfaces

- Techniques for designing good user interfaces.
- Event-driven development and response
- Behavior and properties of visual controls
- Styling, look and feel.

Module 4: Accessing Relational Databases

Relational database concepts

- Employing databases for fast, efficient storage
- Selecting, inserting, updating, and deleting query syntax

Accessing the database with Entity Framework

- Connecting to the database
- Storing user information
- Retrieving existing records
- Updating and saving user information
- Adding and deleting records

Module 5: More Object-Oriented Programming

Object-Oriented Programme Layout

- Encapsulating data
- Ensuring proper object creation using constructors
- Extending classes using inheritance
- Overriding using virtual functions

Code Quality and Error Handling

- Throwing and handling exceptions
- Try...Catch...Finally error handling.
- Commenting code

Module 6: Leveraging Generative AI

Capabilities and Concepts of Gen AI

- The AI megatrend
- How GenAI works
- The promise and the pitfalls

- AI Ethics

Preparing AI prompts

- Elements of an effective prompt
- Succinct, polite queries
- Background...Goal...Rationale format
- Repeat and regenerate until satisfied.