

# Programming Essentials Using Microsoft Visual Basic (5 days) GWE10200

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5 Days

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## ***Introduction***

This course provides students with the knowledge and skills to create programs using the VB.NET programming language. This course is designed for beginning or intermediate programmers that have not had any formal training with this language. It is designed to the essentials of the language and to quickly advance students to the next level of programming.

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## ***Prerequisites***

- There are no pre requisites for this class.
- Experience writing T-SQL statements (Select, Insert, Update, Delete) is helpful
- Familiarity with a Microsoft Windows operating system is helpful

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## ***Course Description***

At the end of this course, students will be able to create an application using the VB.NET language with Visual Studio. They will also be able to use the language features and syntax of VB.NET, explain and use the basic concepts and terminology of object-oriented programming, create basic applications by using Microsoft Windows Forms, create basic Internet applications that use Web Forms and Web Services, create basic applications that use ADO.NET, create basic components (DLL's), and create basic setup and deployment.

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## ***Course Summary***

### Microsoft .NET Overview

- What is the .NET Framework?
- What are the pieces of the .NET Framework?
- Common Language Runtime
- How is memory managed in the .NET Framework? (overview)

### Introduction to Visual Studio.NET

- Exploring the IDE
- Visual Studio Features
- Project Types
- Files created by Visual Studio
- Project properties
- Creating a simple windows application
- Compiling a simple windows application
- Debugging a simple windows application
- Referencing external applications from your project.
- Exploring the help features
- IntelliSense features

### VB.NET Syntax and Language Essentials

- Data Types
- Declare, initialize, and using variables and arrays.
- Methods and Properties
- Exception Handling

- Structured Error Handling using Try...Catch...Finally statements

## Object-Oriented Design Concepts

- Designing Classes
- Object-Oriented Programming Concepts
- Advanced Object-Oriented Programming Concepts
- Explain the concepts of encapsulation, inheritance, interfaces, and polymorphism.
- Designing Classes with Visual Studio IDE

## Object-Oriented Programming Techniques

- Defining Classes
- Creating and Destroying Objects
- Interfaces
- Inheritance
- Working with Classes
- Create classes that use inheritance.
- Define interfaces and use polymorphism.
- Create shared members.
- Create class events and handle them from a client application.

## Windows Forms Essentials

- Windows Forms overview
- Using Windows Forms
- Controls overview
- Essential Controls
- Windows Forms Inheritance
- Handling events
- Menus, Toolbars, and Statusbars.

## Building Web Applications

- ASP.NET overview
- Creating Web Forms
- Use HTML server controls and Web server controls
- Web Services overview

## Using ADO.NET

- ADO.NET Overview

- Using ADO.NET in a Windows application
- Using ADO.NET in a ASP.NET application
- Using Visual Studio .NET data designers and data binding.

#### Developing Components in Visual Basic .NET

- Components Overview
- Creating Component Classes
- Creating Windows User Controls
- Creating Web User Controls

#### Deploying Applications

- Describing Assemblies
- Choosing a Deployment Strategy
- Deploying Applications

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