



📞 978.256.9077

✉️ [admissions@brightstarinstitute.com](mailto:admissions@brightstarinstitute.com)

## Windows Forms Programming Using Visual Basic.NET

**Duration:** 35 hours

**Price:** \$900

**Prerequisites:** Prior programming experience is required.

**Description:** This course provides students with hands on experience using Visual Studio to create desktop applications using Windows Forms and the .NET Framework using Visual Basic.NET. The course provides a thorough introduction to the VB.NET programming language, including coverage of the essentials of the VB.NET programming language, built in data types, operators, control structures, classes and methods, collections and exception handling.

Students then learn how to leverage the power of the .NET Framework to build desktop applications. Students learn how to build Windows Forms applications and use with a variety of controls to create sophisticated user interfaces. Students also learn how to use the BackgroundWorker to perform asynchronous operations.

Students learn how to use ADO.NET to interact with databases and XML files. Students learn how Windows Forms uses data binding to display data in controls such as the DataGridView and Chart. Students also learn how to build and interact with simple WCF SOAP Web Services.

Other topics include: debugging techniques; using a .config file to control application configuration; building menus, toolbars and status bars; reading and writing files; interacting with the file system; and deploying desktop applications.

Comprehensive labs provide the students with extensive experience creating and deploying Windows Forms-based desktop applications.

### Course Overview

## Introduction to .NET

- Overview of the .NET Framework
- How .NET is Different from Traditional Programming
- Common Language Runtime (CLR)
- Common Language Specification (CLS)
- Common Type System (CTS)
- .NET Assemblies
- Microsoft Intermediate Language (CIL)
- .NET Namespaces
- .NET Framework Class Library

## Language Fundamentals

- VB.NET Program Structure
- Defining Namespaces
- Understanding VB.NET Data Types
- Defining Variables and Constants
- Comparing Value Types vs. Reference Types
- Working with Operators and Expressions
- Performing Type Conversions
- Using Console I/O
- Formatting Numbers, Date and Times

## Procedures and Parameters

- Subroutines vs. Functions
- Defining Shared and Instance Methods
- Passing Parameters by value and by reference
- Overloading Methods
- Using Variable Length Parameter Lists

## Collections

- Defining and Using Arrays
- Understanding `System.Array`
- .NET Collections vs Generic Collections
- Working with Lists
- Working with Dictionaries
- Using LINQ to Objects

## Introduction to Visual Studio

- Creating a Project
- Using the Code Editor
- Correcting Syntax Errors
- Setting Project Properties
- Adding References
- Compiling a Program
- Running a Program
- Debugging a Program
- Using the MSDN (Help)

## Conditionals and Looping

- If/Else
- Select Case
- Do/Loop
- While
- For
- For Each

## Exception Handling

- What are Exceptions?
- .NET Exception Hierarchy
- Catching Exceptions
- Throwing Exceptions
- Managing Resources with Finally

## Object-Oriented Programming

- Overview of Object-Oriented Programming
- Building Classes
- Defining Properties
- Using Auto-Implemented Properties
- Defining Methods
- Understanding Constructors
- Extending .NET Classes via Inheritance
- Defining and Implementing Interfaces
- Understanding the Role of Interfaces in .NET

## Windows Forms Applications

- Windows Forms Applications
- Setting Form Properties
- Understanding the Life-cycle of a Form
- Using the Windows Forms Designer
- Using the `MessageBox` Class
- Using a `.config` File

## Handling Events

- Understanding the Event-Driven Programming Model
- Writing Event Handlers
- Sharing Event Handlers

## ADO.NET

- Understanding the ADO.NET Object Model
- Connected vs. Disconnected Access
- Using a Connection to Connect to a Data Source
- Using a Command to Execute Queries and Stored Procedures
- Using a `DataReader` to Work with Cursors
- Using the `DataSet` with Disconnected Data
- Using `DataAdapters` with `DataSets`

## Data Binding

- Understanding ADO.NET Data Binding
- Binding to Simple and Complex Controls
- Manually Binding Controls
- Using the `BindingSource` Control
- Using the `BindingNavigator` Control
- Using the `DataGridView` Control
- Using the `Chart` Control

## Working with Menus, Toolbars and Status Bars

## Using Controls

- Working with Windows Forms Controls
- Using `Text` Controls
- Using `Button` Controls
- Using `Selection` Controls
- Using `List` Controls
- Using `Container` Controls
- Using `Image` Controls
- Using `Up/Down` Controls
- Using the `ErrorProvider` and `ToolTipProvider` Controls

## Performing Asynchronous Activities

- Understanding Threading
- Working with Delegates
- Using the Background Worker
- Updating Controls from Other Threads

## Using XML

- Understanding XML and XML Schemas
- Reading XML Data with a `DataSet`
- Writing XML Data with a `DataSet`

## Working with Forms

- Understanding Modal vs Modeless Forms
- Displaying Modal Forms
- Working with `DialogResult`
- Retrieving Data from Modal Forms
- Displaying Modeless Forms
- Working with Data in Modeless Forms
- Using the Common Dialogs

## Working with Files and Directories

Working with Menus

- Working with Toolbars
- Working with Status Bars

Working with the Windows File System

- Discovering Drives
- Discovering Directories
- Discovering Files
- Examining File, Directory and Drive Attributes
- Reading, Writing and Appending to Files

### **Introduction to WCF Web Services**

- Overview of WCF Services
- Understanding SOAP
- Creating a WCF SOAP Web Service
- Creating a Proxy Class
- Calling a WCF SOAP Web Service

### **Deploying Windows Forms Applications**

- Understanding Deployment Options
- Configuring an Application for Deployment
- Using XCOPY Deployment
- Using Installers
- Using Click-Once Deployment

---

978.256.9077

[admissions@brightstarinstitute.com](mailto:admissions@brightstarinstitute.com)

Copyright© Bright Star Institute