



Microsoft® Visual Basic® .NET

Instructors: **Ken Getz** is a nationally renowned speaker and best-selling author who specializes in programming with Visual C# and Visual Basic. He is the author and presenter of some of AppDev's most popular courses, and has been showing developers how to build powerful, robust applications for over 10 years.

Andy Baron is a nationally recognized industry expert specializing in SQL Server, ADO.NET and SQL Server Business Intelligence. Andy is a Microsoft MVP (Most Valued Professional), an author and editor for some of the industry's top publications, and a sought-after speaker and consultant.

Mary Chipman is a programmer-writer for the Data Access Technologies team at Microsoft. Prior to joining Microsoft, she had been awarded the MVP designation every year since 1995. Mary has written many books as well as articles for technical journals, and is a frequent speaker at industry conferences.

Total Learning Time: 26-78 hours

Media run time is 26+ hours, total learning time could be up to 78 hours if the courseware, labs and exams are utilized. This course can also be used as quick reference material, with the ability to access just the information you need in a matter of minutes.

Course Description:

In the first part of this course you will learn how to use Visual Studio .NET and Visual Basic .NET to build applications to run on the .NET platform. You will become familiar with the new Visual Basic .NET programming syntax including new object-oriented enhancements like inheritance. This course teaches you how to create Windows Forms and trap Windows Forms Events. You will learn how to access data using the new objects in ADO.NET including the DataReader, DataAdapter, and DataSet. Learn to build solid applications using the new Try/Catch block and Exception Object for efficient error trapping and Event logging and Breakpoints for effective debugging. Once you have mastered the basics of Visual Basic .NET, you will learn how to access legacy code in COM components through Visual Basic .NET. Understand how to use ADO.NET to manage data through table constraints, data-binding and transactions. Tap into the Internet by building Web-based application and XML Web Services including understanding Microsoft's SOAP toolkit, UDDI, and how to build Web Services consumers. Learn how to leverage the security features in the .NET framework to lock down your application and build powerful reports using Crystal Reports. Deploy your application effortlessly by understanding how to create Windows Installer Packages.

Course Outline:

Introduction to Windows Forms

- Yes, .NET Does Windows
- Adding Controls to a Form
- A Peek behind the Scenes
- Adding Event Handling Code
- Adding a Menu to the Form
- Adding Non-Graphical Components

VB.NET Nuts and Bolts

- Creating Console Applications
- Creating a New Visual Basic.NET Project
- Modules and Classes
- Variables, Operators, and Data Types
- Procedures, Arguments, Looping, and ControlFlow

The Windows Forms Event Model

- See how to efficiently deploy your VB.NET applications
- How Visual Basic.NET Handles Events
- Understanding Delegates
- Anatomy of an Event Handler
- Exploring Form and Control Events

Classes and Objects

- Using Objects to Organize a Complex World
- Defining Classes
- Constructing Objects
- Creating and Using Properties
- Creating and Using Methods
- Raising and Handling Events
- Finalization

Windows Forms Controls

- TabControl, Context Menu, TrackBar
- NumericUpDown, DomainUpDown
- Label, CheckBox, RadioButton ListBox
- Adding Controls Dynamically
- Other List Controls
- Anchoring and Docking
- Using the Splitter Control
- Dialog Controls

Working with Strings and Dates

- Working with Text: The String Class
- Manipulating Text with the StringBuilderClass
- Working with Dates and Times
- Handling Elapsed Times with the TimeSpan Type

Exception Handling

- Perspectives on Exception Handling
- Adding a Simple Try/Catch Block
- Using an Exception Object
- Catching Specific Exceptions
- Using the Throw Keyword
- Using the Finally Block

Debugging Your Applications

- Configuring the Debugging Environment
- Debugging Syntax Errors
- Configuring Debugging in Visual Studio .NET
- Setting Breakpoints and Stepping through Code
- Exploring the Debugging Windows
- Writing to the Windows Event Log

Inheritance and Interfaces

- Object Oriented Programming
- Supporting Inheritance
- Creating a Derived Class
- Overriding in Action
- Customizing Controls with Inheritance
- Using Interfaces
- Implementing IComparable to Enable Sorting

Handling Input/Output Tasks

- Introducing the System.IO Namespace
- Selecting Files
- Handling Path Information
- Working with Directories and Files
- Reading and Writing Text Files

Investigating .NET Data Structures

- Working with Arrays
- Useful System.Array Members
- Arrays in the .NET Framework
- The ArrayList Class

- The Hashtable Class
- The SortedList Class
- The Stack and Queue Classes
- Creating Strongly Typed Collections

Accessing Data

- Overview of ADO.NET
- Connecting to Data
- Executing Commands
- Working with Data
- Choosing an ADO.NET Provider

Interoperability

- Using COM Objects in Visual Basic .NET
- Using Platform Invocation Services
- Call .NET Assemblies from Visual Basic 6.0

Creating Data-Bound Applications

- Data Binding Basics
- Using the Data Form Wizard

Introduction to ASP.NET

- A Review of Classic ASP
- ASP.NET Web Applications
- Rendering HTML with Server Controls

Managing Data with ADO.NET DataSets

- The Role of DataSets in ADO.NET
- Using DataSets in ASP.NET
- Saving DataSets in Session State
- Using DataTable Constraints and DataSet DataRelations
- Using DataSets with DataAdapters to Modify Data
- Using DataSets with DataAdapters to Modify Data (cont.)
- The Transactional Model in DataSets
- DataSets and XML
- Typed DataSets

Creating Reports Using Crystal Reports

- Introducing Crystal Reports
- Creating a Simple Report
- Using Custom Formulas

- Add Custom Grouping and Totals
- Filtering the Report

Creating Windows Services

- Introducing Windows Services
- Building Your First Windows Service
- The FileWatcher Service

Creating and Consuming XML Web Services

- The Motivation for XML Web Services
- Creating an XML Web Service with Visual Studio .NET
- Designing XML Web Services
- Creating .NET Consumers
- Web Services and Legacy Clients
- Discovering Web Services Using UDDI

Data Binding Techniques

- Synchronizing Multiple DataGrid Controls
- Formatting a DataGrid Control
- Limit Editing in a DataGrid
- Working with the ListBox Control
- Working with Binary Data

Security

- Overview of Security in .NET
- Permission Requests
- Using Role-Based Security

Multiple Document Interfaces (MDI) and Graphics (GDI+)

- Creating MDI Applications
- The Scribble Application
- Drawing on Forms
- Creating Transparent Areas in Forms
- Creating Shaped Forms

Deployment

- Deployment Concepts
- Simple Deployment
- Windows Installer Deployment
- Deploying Shared Components
- HTTP Deployment

Number of Modules	Media Run Time	Total Learning Time	Printable PDF Courseware*	Hands-on Labs	Sample Code	Pre/Post Exams	Supports Microsoft Exam Number
16 Modules	26+ hours	26-78 hours	1,100+ Pages	Yes	Yes	Yes	70-306

* Professionally printed, bound courseware (student manuals) are available. Ask for details.