Learning to Program in Visual Basic® 2005

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.

Robert Green is a frequent speaker at technology conferences and has authored many articles on Visual Basic and Visual C#. A former program manager and product manager for Microsoft Corporation, Robert now specializes in authoring and presenting using the latest Visual Studio technologies.

Target Audience/Prerequisites: This course assumes that students have some programming background. No specific experience with Visual Studio 2005 or the .NET Framework is required.

Total Learning Time: 15-45 hours
Media run time is 15+ hours, total learning time could be up to 45 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 this course, you'll learn to use Visual Studio 2005 to explore the Visual Basic 2005 language. The course starts with a quick overview of the .NET platform, examining assemblies, Microsoft Intermediate Language, Visual Studio profiles, XML comments, IntelliSense, and debugging. From there, you'll learn all the language features that you must internalize in order to create full-featured Web or Windows applications that make best use of the .NET platform. You'll learn about data types, variables, and operators, along with all the important flow control structures. You'll work through several examples demonstrating the power of the .NET Framework, and dig into creating and consuming your own classes and objects. The course moves on to working with data structures, such as arrays and collection classes, before finishing up with discussions of generics, handling exceptions and working with delegates and events. By the end of this course, you will understand the important basic concepts that will allow you to start creating the applications you need.

Course Outline:

Getting Started: Hello World
- Thinking about .NET
- Using Visual Studio 2005
- Debugging Your Applications

Variables and Data Types
- Introducing Variables and Data Types
- Converting from One Data Type to Another
- Working with Operators

Using the .NET Framework
- Generating Random Numbers
- Getting Information about the Computer
- Working with XML
- Working with File I/O
- Working with Strings
- Working with Dates and Times
- Introducing the My Namespace

Branching and Flow Control
- Conditional Branching
- Repeating Code Blocks
- Other Control Flow Statements

Classes and Objects
- Introducing Objects and Classes
- Creating Your Own Classes
- Value Types vs. Reference Types
- Object Lifetime (Disposal and Deterministic Finalization)
- Instance Members

Object Properties and Methods
- Working with Properties
- Calculating Values for Properties
- Validating Values in Properties
- Passing Arguments to Properties
- Working with Methods
- Passing Arguments to Methods
- Returning Arrays
- Working with Instance Members

Object-Oriented Techniques
- Inheritance
- Polymorphism
- The Real Base Class: System.Object
- Overriding Properties and Methods
- Abstract Classes
- Implementing and Creating Interfaces
- Organizing Classes

Arrays
- Introducing System.Array
- Initializing Arrays
- Iterating Through Arrays
- Array methods
- Passing Arrays as Method Parameters
- Multi-Dimensional Arrays

Delegates and Events
- Events, Historically
- Interfaces vs. Delegates
- Delegates as Type-Safe Function Pointers
- Motivating Events
- Event Handlers as Delegate Instances

Generics
- Understanding Generics
- Generic Types and Classes
- Calling Generic Procedures
- Generic Constraints

Exceptions
- What Happens Without Exception Handling?
- Adding a Simple Try/Catch Block
- Using and Exception Object
- Catching Specific Exceptions
- Raising Errors
- Finally: Running Code Unconditionally
- Handling Unhandled Exceptions
- Creating Exception Classes

Collection Classes
- Collection Interfaces
- The Generic List
- Constraints and Lists
- Sorting Collections
- Queues and Stacks
- Hash Tables and Dictionaries

Number of Modules	Media Run Time	Total Learning Time	Printable PDF Courseware*	Hands-on Labs	Sample Code	Pre/Post Exams	Supports Microsoft Exam Number
10 Modules	15+ hours	15-45 hours	750+ Pages	Yes	Yes	Yes	N/A

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