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| **Course Title:** | **Introduction to Visual Basic .NET** |
| **Duration:** | Five (5) Days |
| **Class Schedule:** | 9:00am to 5:00pm |
| **Target Participants:** | Government and Private I.T. Personnel, Members of the Academe and College Graduates of Computer Science and I.T. related courses. |
| **Instructor:** | **Microsoft Certified Trainer (MCT)** |
| **Total Hours:** | 35 Hours |

**Course Contents:**

I. Getting Started

This lesson introduces Visual Basic .NET and explains how it fits into the .NET platform. It explains how to use the programming tools in Microsoft Visual Studio .NET and provides enough practice so that students can create their first application in Visual Basic .NET.

- Basic .NET Concepts
- Exploring the Development Environment
- Creating a Visual Basic .NET Project

II. Working with Forms and Controls

This lesson explains fundamental programming concepts, including event-driven programming, classes, objects, properties, methods, and events. This lesson also explains how to use forms and controls to create a user interface. This includes the following: how to create a form, set properties, call methods, and write code for events; how to add controls to a form; how to manage multiple forms; how to use message boxes; how to use naming conventions; and how to format and document code.

- Understanding Programming Concepts
- Working with Windows Forms
- Working with Controls
- Styling Your Code

III. Using Variables and Arrays

This lesson explains how to name, declare, assign values to, and use variables and constants. It explains how to declare variables with different levels of scope, how to create your own data structures, and how to convert variable values from one data type to another. It also describes how to store data in an array.

- Introduction to Data Types
- Using Variables
- Variable Scope
- Converting Data Types
- Creating and Using Structures
- Storing Data in Arrays

IV. Working with Procedures

This lesson describes how to create and use Sub and Function procedures, including predefined functions, and how to structure code for increased reusability.

- Creating Procedures
- Using Procedures
- Using Predefined Functions

V.  Decision Structures and Loops

This lesson explains how to implement decision structures and loop structures to control program output and execution.

- Using Conditional Expressions
- Using Decision Structures
- Using Conditional Loop Structures

VI. Validating User Input

This lesson explains how to validate user input at both the field level and the form level. It describes how to handle invalid input by providing error messages and guiding users through the process of finding and fixing errors. It describes how to use control properties and methods to restrict and validate data entry.

- Restricting User Input
- Validating Field Data
- Validating Form Data

VII. Object-Oriented Programming in Visual Basic .NET

This lesson explains how to create and use classes. The lesson explains the concepts of abstraction, encapsulation, instantiation, initialization, constructors, and destructors. This module also describes inheritance, polymorphism, and namespaces.

- Understanding Classes
- Working with Classes
- Using Shared Members
- Inheritance, Polymorphism, and Namespaces

VIII. Handling Errors and Exceptions

This lesson explains types of errors that can occur in a program and explains how to use the debugging tools provided with Visual Basic .NET to help diagnose and correct the errors. These tools include the Visual Studio .NET debugger, debugging windows, and structured exception handling.

- Types of Errors
- Using the Debugger
- Handling Exceptions

IX. Enhancing the User Interface

This lesson explains how to create menus, status bars, and toolbars to enhance the usability of an application.

- Creating Menus
- Creating Status Bars
- Creating Toolbars

X.  Web Forms and XML Web Services

This lesson explains how to create a Web Forms application and how to invoke a simple XML Web service.

- Working with Web Forms
- Using XML Web Services

XI. Using ADO.NET

This lesson explains how to use ADO.NET with a Windows Forms application to create, read, update, and delete records in Access and SQL Server databases.

- Database Concepts
- Overview of ADO.NET
- Working with Data

XII. Deploying Applications

This lesson explains how to deploy applications by using Visual Studio .NET. The module also describes deployment options available in Visual Basic .NET, and how to create and configure a setup project for a Windows-based application.

- Introduction to Deployment
- Deploying a Windows-based Application