

Certificate Course in Visual Basic (VB)

Course Overview

The **Certificate Course in Visual Basic (VB)** is a 2-month training program designed to introduce learners to **event-driven programming and application development** using Visual Basic. The course provides a foundation in **VB syntax, forms, controls, database connectivity, and application design**, enabling students to develop small- to medium-scale desktop applications.

With its user-friendly interface and rapid application development (RAD) features, VB is widely used in business applications, education tools, and custom software solutions. This course emphasizes **hands-on learning** through practical exercises and a mini-project.

Duration: 2 Months (Approx. 40 sessions)

Prerequisites: Basic computer knowledge and logical thinking; prior exposure to programming is helpful but not mandatory.

Course Objectives

By the end of this course, learners will:

1. Understand the **fundamentals of Visual Basic and event-driven programming**.
 2. Gain skills in **designing forms and working with controls**.
 3. Implement **variables, data types, operators, and control structures** in VB applications.
 4. Learn to **manage data with arrays, functions, and procedures**.
 5. Apply **file handling and error handling techniques**.
 6. Connect VB applications to **databases using ADO/ADO.NET**.
 7. Design and develop a **mini project using VB**.
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Course Outcomes

After successful completion, learners will be able to:

- CO1: Write and execute simple to intermediate-level VB programs.
- CO2: Design **graphical user interfaces** with VB forms and controls.
- CO3: Apply **logical structures, functions, and event-driven programming**.
- CO4: Perform **file and database operations** in VB applications.

- CO5: Develop and present a **mini-project application** for real-world use.
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Course Syllabus

Module 1: Introduction to Visual Basic

- Overview of Visual Basic and its applications
- VB IDE (Integrated Development Environment) overview
- Writing and executing a simple VB program
- Event-driven programming concepts

Module 2: VB Programming Basics

- Variables, constants, and data types
- Operators and expressions
- Input and output statements
- Control structures (If, Select Case, Loops)

Module 3: Forms and Controls

- Creating and designing VB forms
- Common controls: Label, TextBox, CommandButton, ListBox, ComboBox
- Menus and dialog boxes
- Event handling (Click, Change, Load, etc.)

Module 4: Arrays, Procedures & Functions

- Single and multidimensional arrays
- Subroutines and functions
- Built-in functions in VB
- Modular programming concepts

Module 5: File Handling & Error Handling

- Working with files: Open, Read, Write, Close
- Sequential and random file access
- Error handling with On Error statement
- Debugging tools and techniques

Module 6: Database Connectivity

- Introduction to ADO/ADO.NET in VB
- Connecting to databases (MS Access/SQL Server)
- Executing queries from VB
- CRUD operations (Create, Read, Update, Delete)

Module 7: Mini Project

- Designing and implementing a small desktop application (e.g., Student Management, Inventory System, Billing Software)
- Testing and debugging the project
- Documentation and presentation

☒ This **Certificate Course in VB (2 Months)** provides a strong foundation in **Visual Basic programming and application development**, preparing learners for further studies in **VB.NET, C# .NET, or other application development frameworks**.