

Course Name:

Microsoft Excel – Visual Basic Application (VBA)

Synopsis

Are you ready to unlock the full potential of Excel? Our comprehensive Excel VBA (Visual Basic for Applications) Programming Course by a certified Microsoft Excel Expert is your ticket to a world of automation, custom functions, and supercharged spreadsheet functionality. Through a series of hands-on exercises and practical examples, this course will guide you through the intricate world of VBA coding. You'll learn the art of writing efficient VBA code that not only automates tasks but also empowers you to manipulate data like a pro and even carry out complex modelling and simulation! With Excel VBA, the possibilities are endless. Dive deep into the VBA Programming Environment, Master Control Structures like loops and Conditional Statements, Work with Arrays and Collections for efficient Data Management, and tap into Excel's vast Object Model to unleash its full potential. Join us on this exciting journey and discover the power of Excel VBA like never before!

What You Will Learn

- **Introduction to Excel VBA:** Dive into the core of VBA programming, discover its boundless applications within Excel, and venture into the captivating VBA environment!
- **Recording and Editing Macros:** Transform Mundane Tasks into One-Click Magic by learning the art of recording and editing macros to automate repetitive tasks in Excel.
- **VBA Programming Basics:** From Variables to Expressions, discover the keys to Automating Tasks and unleashing Excel's true potential
- **Excel Object Model:** Explore the fascinating Excel Object Model and unlock the secrets of manipulating Workbooks, Worksheets, Ranges, Charts, and more
- **Procedure Scoping and Variable Scoping:** Scoping in VBA is your map to Variable visibility and accessibility across your coding journey
- **Passing Arguments:** Learn the Art of Passing Arguments in VBA to create Dynamic and Interactive Excel Solutions

- **Control Structures:** Learn to weave If...Then...Else, Select Case, and powerful loops like For...Next, Do...While, and Do...Until into your code for a harmonious and efficient program flow
- **VBA Input Box:** Harness the power of InputBox in VBA to create interactive and user-friendly Excel solutions
- **VBA Message Box:** Let Your Excel Speak! From friendly reminders to critical alerts, add flair and function to your Excel projects
- **Debugging and Error Handling:** Learn how to navigate choppy coding waters with expert Debugging and Error Handling in VBA
- **Workbook and Worksheet Events:** From Automated triggers to personalized interactions, unlock the power of event-driven programming.
- **Excel Formulas in VBA:** Discover how to supercharge your Excel spreadsheets by parsing formulas into VBA.
- **ActiveX Controls:** Discover the magic of ActiveX Controls in VBA and take control of your spreadsheets like never before.
- **User Forms:** Create tailored Excel experiences that dazzle users and elevate your app to the next level
- **Creating Custom Functions:** Learn to Craft Custom Functions in VBA and transform Excel into a Powerhouse of tailored Solutions

Who Should Attend

This comprehensive course is specifically designed to cater to the needs of professionals across various industries who want to enhance their Excel skills and streamline their workflows. Whether you want to streamline data processing, automate tasks, analyse data, build complex models or create custom solutions, Excel VBA training can empower you to achieve your goals more efficiently in Excel.

Prerequisite

Good grasp and familiarity with Excel Features is required.

Course Methodology

- Theory
- Hands-On
- Discussions
- Exercise
- Interactive Classroom Session

Course Duration

3 days - 9am - 5pm

Course Structure

Session 1: Getting started with VBA

Participant will familiarise with the VBA Operating Environment and Interface, as well as gain an overview of the VBA Object Model in Excel.

- Learning about VBE Editor
- Recording Macros in Absolute Mode
- Recording Macros in Relative Mode
- VBA Object Model

Session 2: VBA Programming Basics

Participants will learn essential VBA programming concepts such as variables, data types, control structures, and procedures to build a strong foundation for automating tasks and manipulating data in Excel.

- Variable Types
- Implicit & Explicit Declaration

- Referencing Ranges (Contiguous & Non-Contiguous)
- Finding Last Row & Last Column
- Parsing the Syntax to Write Ranges
- Used Range vs Current Region
- Special Cells & How to Use them
- VBA Functions & Excel Functions
- Deleting Rows & Columns (Entire vs Selected Range)

Session 3: Workbooks & Worksheets Interaction

Participants will learn how to programmatically interact with Excel workbooks and worksheets using VBA.

- Referencing Workbook
- Referencing Worksheet
- Simplify Using With-End With

Session 4: Conditional Statements in VBA

Conditional statements in VBA allow participants to create logic that executes different actions based on specified conditions.

- IF Then Statements and Structures
- Combining with AND/OR logical operators to write complex statements.
- Select Case –Alternative to IF

Session 5: Procedure Scoping & Variable Scoping

Participants will learn about procedure scoping and variable scoping in VBA, understanding how variables are defined within procedures (local scope) and at the module level (module-level scope)

- Public vs Private Procedure
- Public Variable, Private Variable, Static Variable & Constant

Session 6: Passing Arguments

Participants will understand the concept of parameter passing, learn different ways to pass arguments (by value, by reference).

- Passing ByRef
- Passing ByVal

Session 7: Looping in VBA

By mastering looping techniques in VBA, participants will be able to write more structured, efficient, and flexible code to automate tasks, manipulate data, and streamline workflows in Excel.

- For Next Loop
- For Each Loop
- Do Until & Do While

Session 8: Debugging & Error Handling

Debugging and error handling in VBA are critical skills that participants will learn to effectively manage and troubleshoot their code.

- Debugging by Stepping into Code, Watch Window, Immediate Window, Locals Window
- Error Handling Using GoTo, On Error Resume Next, On Error GoTo Error Handle, On Error GoTo Label

Session 9: Input Box

Mastering the InputBox function in Excel VBA empowers participants to create dynamic and interactive Excel applications that engage users and enhance data processing capabilities.

- Introduction to InputBox Function
- Basic InputBox Parameters
- Input Types and Validation

- Handling User Responses
- Advanced Input Box Features such as Icon, Title, Prompts

Session 10: Message Box in VBA

Participants will gain practical knowledge and skills in utilizing Message Boxes to enhance user interaction, provide feedback, and improve the overall user experience in their VBA applications.

- Introduction to Message Boxes
- Basic Message Box Creation
- Message Box Icons and Styles
- Interactive Message Boxes

Session 11: Worksheet and Workbook Events

By mastering workbook and worksheet events in VBA, participants will gain the skills to create dynamic, responsive, and efficient Excel applications that respond to user actions and data changes effectively.

- Understanding Events in VBA
- Workbook Events
- Worksheet Events
- Event Procedures and Code Modules
- Event-Based Error Handling

Session 12: Excel Formulas In VBA

Participants will learn how to parse Excel Formulas in VBA.

- Why Write Excel formulas in VBA
- Parsing Excel Formulas in VBA with literal Strings

Session 13: ActiveX Controls

By understanding ActiveX controls in VBA, participants will gain the skills to create interactive and user-friendly Excel applications, automate data entry and validation processes, and design custom user interfaces with enhanced functionality and user experience.

- Introduction to ActiveX Controls
- Inserting and Managing ActiveX Controls
- Customizing ActiveX Controls
- Event Handling with ActiveX Controls
- ActiveX Control Properties and Methods

Session 14: User-Form

By mastering User Forms in VBA, participants will gain the skills to design and create professional-looking interfaces, improve data entry workflows, enhance user interaction, and develop customized Excel applications with tailored user interfaces and functionality.

- Introduction to UserForms
- Designing UserForms
- Customizing UserForms
- Working with UserForm Controls
- Data Entry and Validation
- UserForm Events and Code Behind
- Advanced UserForm Features (List boxes and Combo Boxes).

Session 15: Functions

By learning VBA functions, participants will gain the skills to create modular, reusable, and efficient code components in VBA, enhancing their ability to automate tasks, perform calculations, and manipulate data effectively within Excel.

- Introduction to Functions
- Creating Custom Functions
- Data Types and Return Values



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Session 16: Wrap Up

Moving Forward.

- Review of Key Concepts
- Q&A and Discussion Session
- Learning Resources
- Seeking Help