MICROSOFT EXCEL VBA PROGRAMMING

Course ID : MSE-L7

Scan for Details on Our Website

Duration: 3 Days

(18 Hours) 09:00 AM – 04:00 PM

Price: Call (Inhouse training only)

* (excluding VAT 7%)
* Eligible for 200% tax deduction

Training Schedule

www.9experttraining.com

Category: Business, Data

This course is designed to developing electronic spreadsheet applications using VBA in Microsoft Excel. Participants will learn how to create custom solutions - starting from macro security and understanding the Excel Object Model, to working with properties, methods, sub procedures, function procedures, variables, constants, data types, program flow control, automation, and event handling. The curriculum features hands-on practical examples, including scheduling automated emails with attachments, designing user forms, applying debugging techniques, optimizing VBA performance, and securing VBA code.

Objectives

1. Develop and implement VBA programs to automate tasks in Microsoft Excel.
2. Read, understand, and modify VBA code effectively to enhance and customize Excel functionality.

Target Audience

1. Individuals with prior experience using Microsoft Excel and recording basic Macros.
2. Individuals who want to automate repetitive tasks in Excel to improve efficiency and accuracy.
3. Users interested in extending Excel 's capabilities through VBA programming and automation.
4. Participants aiming to design and develop advanced user forms for data entry and interaction.

Prerequisites

1. A Solid understanding of Microsoft Excel and its core functionalities.
2. Basic knowledge of recording and editing Excel Macros.
3. Hands-on experience in creating and managing Macros within Excel.
4. A strong interest in developing automated solutions beyond the limitations of standard Excel Macros.
5. Basic programming experience in any language (optional but beneficial).

System Requirements

1. Windows 11 or Windows 10
2. Microsoft Excel | Microsoft 365.

TRAINING TOPICS

DAY 1 Morning Session 9:00 AM – 12:00 PM

1. Fundamentals of VBA in Microsoft Excel

2. Integration of VBA with Microsoft Excel

- Understanding the starting points for writing VBA code.
- Handling non-English language input issues in VBA environments.

3. Understanding and Working with Excel Objects

DAY 1 Afternoon Session 1:00 PM – 4:00 PM

4. Creating and Working with Sub Procedures and Function Procedures

5. Core Components of the VBA Language

- Declaring and using Variables
- Defining Constants
- Understanding Data types
- Applying Operators in VBA expressions

6. Working with Range Objects in Excel

DAY 2 Morning Session 9:00 AM – 12:00 PM

7. Using VBA and Worksheet Functions

- Utilizing built-in VBA functions for automation and calculations
- Applying WorksheetFunction to access Excel's native formulas within VBA
- Creating User-Defined Functions (UDFs) to extend Excel's functionality

8. Program Flow Control and Decision Structures

- Using Goto statement for program redirection (with caution)
- Implementing If-Then and Select Case for conditional logic
- Applying For-Next, Do-While, Do-Until and For Each-Next loop for iterative operations

9. Automating Tasks and Event Handling

- Automating workflows using Workbook and Worksheet Events such as Open, BeforeClose, and BeforeSave
- Managing Activate and Deactivate events for dynamic workbook control
- Handling interaction-based events such as BeforeDoubleClick and Change
- Scheduling actions using the OnTime events
- Example: Scheduling automatic email delivery with VBA

DAY 2 Afternoon Session 1:00 PM – 4:00 PM

10. Error Handling Techniques

- Identifying common sources of runtime errors in VBA
- Using On Error, Resume, and other error-handling statements to control program flow

11. VBA Debugging Tools

- Debugging with Message Box, Breakpoints and Break Mode
- Stepping through code execution to analyze logic flow
- Using the Immediate, Locals and Watch windows for variable inspection
- Debugging with Call Stack to trace procedure execution paths

12. Practical VBA Programming Applications

- Case Studies and Workshops: Applying VBA in real-world business scenarios
- Implementing performance optimization techniques to enhance execution speed
- Displaying messages and status updates in the Excel Status Bar

DAY 3 Morning Session 9:00 AM – 12:00 PM

13. Creating Simple Dialog Boxes

- Displaying messages with Message Box
- Collecting user input using Input Box
- Opening files with GetOpenFileName
- Saving files using GetSaveAsFileName
- Selecting folders with GetFolderName

14. Designing and Customizing User Forms

- Designing interactive user forms for data input and automation
- Exploring over 20 practical user form examples

15. Creating User-Defined Functions (UDFs) and Add-Ins

- Writing functions without arguments
- Creating functions with one, two, or multiple arguments
- Using Range and Option arguments in function design
- Packaging and publishing custom functions as Excel Add-Ins for use across all workbooks

DAY 3 Afternoon Session 1:00 PM – 4:00 PM

16. Seeking VBA Assistance and Resources

- Exploring reliable online resources, documentation, and developer communities for VBA support
- Utilizing built-in VBA Help and Microsoft documentation effectively

17. Enhancing VBA Performance and Applying Best Practices

- Optimizing code execution speed and reducing memory usage
- Implementing structured coding standards for readability and maintenance
- Applying best practices for modular design and reusable procedures

18. Case Studies and Participant Projects

- Presenting real-world VBA solutions developed by participants
- Sharing challenges, lessons learned, and performance improvement techniques

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