

Microsoft Excel Programming in VBA

OVERVIEW

The **VBA for Excel** course is designed for experienced Excel users who want to automate repetitive tasks, streamline processes, and create custom solutions within Excel. This course introduces programming concepts in a practical, step-by-step way, focusing on real-world automation rather than theoretical coding.

Participants learn how to work within the VBA environment, understand the Excel object model, write and run procedures, create user-defined functions, and build working VBA applications that interact directly with Excel workbooks, worksheets, and data.

LEARNING OUTCOMES

By the end of the course, participants will be able to:

- **Understand VBA concepts** and the structure of the Excel object model
- **Navigate and use the VBA Editor** effectively
- **Create procedures and macros** to automate Excel tasks
- **Declare and use variables** and common programming techniques
- **Write code that manipulates Excel objects**, such as worksheets, cells, and ranges
- **Create user-defined functions** to extend Excel's built-in functionality
- **Build custom user forms** with controls and event-driven code
- **Create code that runs automatically** based on events
- **Implement error-handling routines** to make solutions more robust

These outcomes enable participants to build real-world VBA applications that reduce manual effort and improve consistency and efficiency.

PREREQUISITES

- Strong working knowledge of Excel
- Ability to create and edit workbooks, formulas, and formatted worksheets
- Comfortable copying, pasting, and organising data
- Familiarity with Excel Advanced features is strongly recommended
- No prior programming experience is required

COURSEWARE

Some of the courseware provided is based on the **2016 edition of Microsoft Excel**. While the version may appear older, the **VBA language, Excel object model, and automation techniques** covered remain **highly relevant and accurate** across current Excel versions.

Where newer tools, features, or VBA-related updates are relevant, **our trainers will highlight and incorporate these during the session**, ensuring participants learn techniques appropriate to their Excel environment. We do hope to update them in the future.

DURATION & DELIVERY

The duration of this course is 2 days, without alterations.

We offer flexible delivery options to suit your team and environment:

- **Onsite at your workplace** – Practical, guided training using realistic Excel examples
- **Live online training** – Instructor-led, interactive VBA sessions
- **Customised delivery** – Focus on specific VBA topics or tailor automation scenarios to your business processes

All training is delivered by experienced Excel and VBA specialists with strong real-world development experience.

MICROSOFT EXCEL TRAINING PATHWAY

Our Microsoft Excel training is offered across three progressive one-day courses – **Introduction**, **Intermediate**, and **Advanced** - supported by a range of **specialist Excel courses** focused on advanced analysis, functions, and automation. Whether you are new to spreadsheets, building stronger analytical skills, or automating complex Excel solutions, there is a course tailored to your needs.

All courses can be delivered as is, or we can customise a training program, so your team completes the exact topics they need in the number of days that suits your organisation.

CORE EXCEL COURSES

- **Microsoft Excel Introduction** – Learn the fundamentals of creating, editing, formatting, and managing spreadsheets, with a strong focus on accuracy, good design, and practical everyday use.
- **Microsoft Excel Intermediate** – Build more productive workbooks using formulas, functions, advanced formatting, charts, tables, and analysis tools such as Goal Seek and Quick Analysis.
- **Microsoft Excel Advanced** – Work with complex data, including PivotTables, data consolidation, advanced filtering, validation, protection, macros, and collaboration features.

SPECIALIST EXCEL COURSES

- **Microsoft Excel Functions** – Work confidently with logical, lookup, financial, statistical, text, and date functions.
- **Microsoft Excel Data Analysis Add-Ins** – Analyse and visualise data using Power View, Power Pivot, Get & Transform, and Power Map.
- **VBA for Excel** – Automate Excel processes and build custom solutions using VBA.

COURSE DETAIL

Understanding Excel VBA

- Programming in Microsoft Excel
- VBA Terminology
- Displaying the Developer Tab
- The VBA Editor Screen
- Opening and Closing the Editor
- Understanding Objects
- Viewing the Excel Object Model
- Using the Immediate Window
- Working With Object Collections
- Setting Property Values
- Working With Worksheets
- Using the Object Browser
- Programming With the Object Browser
- Accessing Help
- Code Glossary

Starting With Excel VBA

- Using the Project Explorer
- Working With the Properties Window
- Using the Work Area
- Viewing Other Panes
- Working With Toolbars
- Working With a Code Module
- Running Code From the Editor
- Setting Breakpoints in Code
- Stepping Through Code

Procedures

- Understanding Procedures
- Where to Write Procedures
- Creating a New Sub Routine
- Using IntelliSense
- Using the Edit Toolbar
- Commenting Statements
- Indenting Code
- Bookmarking in Procedures
- Code Glossary

Using Variables

- Understanding Variables
- Creating and Using Variables
- Explicit Declarations
- The Scope of Variables
- Procedure Level Scoping
- Module Level Scoping
- Understanding Passing Variables
- Passing Variables by Reference
- Passing Variables by Value
- Understanding Data Types for Variables

Using Variables (cont)

- Declaring Data Types
- Using Arrays
- Code Glossary

Functions in VBA

- Understanding Functions
- Creating User-Defined Functions
- Using a User-Defined Function in a Worksheet
- Setting Function Data Types
- Using Multiple Arguments
- Modifying a User-Defined Function
- Creating a Function Library
- Referencing a Function Library
- Importing a VBA Module
- Using a Function in VBA Code
- Code Glossary

Using Excel Objects

- The Application Object
- The Workbook Objects
- Program Testing With the Editor
- Using Workbook Objects
- The Worksheets Object
- Using the Worksheets Object
- The Range Object
- Using Range Objects
- Using Objects in a Procedure
- Code Glossary

Programming Techniques

- The MsgBox Function
- Using MsgBox
- InputBox Techniques
- Using the InputBox Function
- Using the InputBox Method
- The IF Statement
- Using IF for Single Conditions
- Using IF for Multiple Conditions
- The Select Case Statement
- Using the Select Case Statement
- For Loops
- Looping With Specified Iterations
- The Do Loop Statement
- Looping With Unknown Iterations
- Code Glossary

COURSE DETAIL (Cont..)

Creating Custom Forms

- Understanding VBA Forms
- Creating a Custom Form
- Adding Text Boxes to a Form
- Changing Text Box Control Properties
- Adding Label Controls to a Form
- Adding a Combo Box Control
- Adding Option Buttons
- Adding Command Buttons
- Running a Custom Form

Programming UserForms

- Handling Form Events
- Initialising a Form
- Closing a Form
- Transferring Data From a Form
- Running Form Procedures
- Creating Error Checking Procedures
- Running a Form From a Procedure
- Running a Form From the Toolbar
- Code Glossary

Automatic Startup

- Programming Automatic Procedures
- Running Automatic Procedures
- Automatically Starting a Workbook

Error Handling

- Understanding Error Types
- The on Error Statement
- Simple Error Trapping
- Using the Resume Statement
- Using Decision Structures in Error Handlers
- Working With Err Object
- Error Handling in Forms
- Coding Error Handling in Forms
- Defining Custom Errors
- Code Glossary