

Excel VBA



This course outline is used to cover topics taught in all versions of Excel. The names and exact details may vary slightly depending on the version you are using.

This course is instructor led, involving the utilisation of examples and exercises in a workshop environment.

Course Objectives

- create recorded macros in Excel
- understand the Excel object model and VBA concepts
- work effectively with the main features of the VBA Editor window
- create procedures in VBA
- create and use variables
- create and work with user-defined functions in VBA
- write code to manipulate Excel objects
- use a range of common programming techniques
- create a custom form complete with an assortment of controls
- create code to drive a user form
- create procedures that start automatically

Prerequisites

Knowledge of Excel up to Advanced level. No prior knowledge of Excel macros or Visual Basic for Applications (VBA) is required. If delegates already have such knowledge then the course could be suitably tailored to meet requirements, by concentrating on more advanced topics.

Recorded Macros

- Understanding Excel Macros
- Setting Macro Security
- Saving a Document as Macro Enabled
- Recording a Simple Macro
- Running a Recorded Macro
- Relative Cell References
- Running a Macro With Relative References
- Viewing a Macro
- Editing a Macro
- Assigning a Macro to the Toolbar
- Running a Macro From the Toolbar
- Assigning a Macro to the Ribbon
- Assigning a Keyboard Shortcut to a Macro
- Deleting a Macro
- Copying a Macro
- Practice Exercise
- Practice Exercise Sample

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

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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
- 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

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

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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