goskills

Microsoft Excel - Macros and VBA

GoSkills online course syllabus

Friday, May 17, 2024

Skill level
Intermediate

Lessons
41

Accredited by
CPD

Pre-requisites
Excel - Basic

Versions supported
2016, 2019, 2021, 365

Video duration
3h 47m

Estimated study time
20h 30m for all materials

Instructor
Ken Puls

Essential Background

1 Macros vs VBA - What's the Difference?
A brief discussion about the differences between macros and VBA, and how this course covers both.

2 Setting up the Macro Environment
Entry level steps to allow the user to record macros in Excel.

Getting Started with Macros in Excel

3 Creating Your First Macro
Recording a simple Macro in Excel.

4 File Types & Saving
A discussion on which files types support macros, and why it is critical to save your work before moving forward.

5 Running Macros: Using the Macro Dialog
How to run a macro from the Macro dialog.

6 Running Macros: Using Keyboard Shortcuts
How to run a macro from a keyboard shortcut.

7 Running Macros: Using Buttons
How to run your macro from a worksheet button.

Getting Started with VBA

8 Navigating the Visual Basic Editor

Meet the Visual Basic Editor (VBE) - your coding studio.

9 VBA Objects & the Object Model

A discussion of the different items you'll encounter as you learn to code, and how they relate to each other.

10 Excel's VBA Object Model

A visual view of a portion of Excel's object model.

11 Where Do I Put My Code?

Examining the different code containers and where you should place your code.

12 Understanding Code: Macro Syntax

Looking at the different keywords and structure that make up a valid macro.

13 Cleaning up Recorded Code

Editing the previously recorded code in order to remove unnecessary objects.

Debugging: Entry Level

14 Step vs Run

How to step through a macro line by line in order to aid in debugging.

15 Using Breakpoints

How to set and use breakpoints during code development and debugging.

Variables

16 What are Variables?

A discussion of what variables are, and what they do for us when coding.

17 Creating Variables

Setting up variable dimensions and ensuring the code does so in the correct location.

18 Setting Variables

How to assign strings, values or objects to variables and use them in your code.

19 Explicit vs Implicit Variables

Why forgetting to set a simple flag can burn you in the long term.

Debugging - Advanced

20 Using the Locals Window

Working with the locals window to help you debug and explore the object model.

21 Using the Immediate Window

Exploring the benefits of the Immediate window for logging and querying, as well as writing when needed.

22 Using the Watch Window

How to use the Watch window to break code execution when variable conditions are met.

23 Using the Stop Keyword

How the Stop keyword can be used during code development similar to a breakpoint.

Coding Constructs

24 With Blocks

How "With" blocks can tighten up your code and ensure your code targets the objects you expect.

25 Logic Tests: If Then Else

Implementing If/Then choices in VBA.

26 Logic Tests: Select Case

Understanding how the Select Case construct adds another logic test to your coding arsenal.

27 Loops: Basic Looping with Do Loops

Basic looping including counting iterations and exiting.

28 Loops: Looping under Conditions with Do While/Until Loops

More advanced looping by looping while or until a certain condition is met.

29 Loops: Looping X Iterations with For X to Y Loops

Running a loop a set number of times.

30 Loops: Looping Through Collections with For Each X in Y Loops

Using a For Each loop to cycle through each object in a collection such as each worksheet in a workbook's worksheets.

31 Calling Other Macros

Setting up a master macro allowing you to call other macros from a single source.

User Feedback and Inputs

32 Creating VBA Message Boxes

How to provide feedback to your user via the VBA MsgBox object.

33 Collecting Feedback from a VBA MsgBox

Identifying which button the user clicked when presented with a MsgBox in order to use their response in our code.

34 Collecting Feedback from a VBA InputBox

Working with the VBA InputBox to prompt the user to enter information and capture it for later use.

35 Forcing User Input

Forcing users to enter data when requested.

Error Handling Techniques

36 Error Types

How to trigger various errors in VBA, and what they mean.

37 Trapping and Handling Errors

How to set up an error trap in VBA to handle errors.

38 Building Error Handlers

Setting up an error handling section for your macro.

User Defined Functions (UDFs)

39 User Defined Function (UDF) Syntax

The syntax signature for a UDF and how it differs from a standard subroutine.

40 Creating User Defined Functions (UDFs)

Creating a UDF to return the user name.

41 Calling a User Defined Function (UDF)

Calling a UDF from a worksheet and from VBA.