Excel Macros & VBA School

Learn how to automate repetitive or complex tasks using the power of Excel Macros & VBA

E-BOOK

Course Curriculum and Guidance

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Welcome to Excel and VBA school

Excel and VBA school is built for you to go from zero knowledge of Macros and VBA to being able to write simple yet useful programs.

It will give you the foundations that you need to continue exploring the subject of programming Excel in more depth.

Without good foundations, you will find yourself struggling when you write more and more code and use other people's code.

With the right foundations, you will be able to create programs that are simple to read and easy to update.

Course Objectives

By the end of the course, you will be able to do the following:

- Explain the difference between Macros and VBA
- Know how to record and play back your own Macros
- Use the VBA Editor to write VBA directly and modify existing Macros
- Understand the Excel Object model
- Learn ways of working with workbooks, worksheets and ranges
- Comment your code so it is easier to read
- Understand variables and how to use them to repeat actions inside loops
- Learn how to use simple decision structures
- Create simple user forms for interaction
- Use Named Ranges, Excel Tables and Arrays in VBA
- Write your own simple yet useful Macros
- Test your code using the VBA Editor

Knowledge is a Treasure,
But Practice is the Key to It.
Lao Tzu

Print this out

I recommend you print this e-book and check off each lesson that you complete. This will help you keep track of your progress.

Reward yourself!

I strongly advise that you set up rewards for completing each module. This will help you keep motivated and make it more likely that you'll complete the course!

Self-rewards can be anything from entertainment to food to self-care rewards. I'll give you some more ideas for self-rewards after the curriculum…

Course Structure

Introduction

Module 1 – Course Introduction

- ☐ Lesson 1 – Introduction to the Course (video)
- ☐ Lesson 2 – Course Information
- ☐ Lesson 3 – How to Study This Course (video)
- ☐ Lesson 4 – Course Structure and Encouragement
- ☐ Lesson 5 – Using the Course Platform
- ☐ Lesson 6 – Quiz

For completing Module 1 this is my **reward**→ _____

Section 1 – Getting Started with Macros and VBA

Module 2 – Introduction to Macros and VBA

- ☐ Lesson 1 – Introduction to Macros and VBA
- ☐ Lesson 2 – Recording and Playing Back Macros
- ☐ Lesson 3 – Saving Macros and Macro Security
- ☐ Lesson 4 – More Ways to Play Back Macros
- ☐ Lesson 5 – Quiz
- ☐ Lesson 6 – Module 2 Projects Introduction
- ☐ Lesson 7 – Project 1: Formula Auditing Macros
- ☐ Lesson 8 – Project 2: Workbook Navigation Macros (Shapes)
- ☐ Lesson 9 – Project 3: Workbook Navigation Macros (Buttons)
- ☐ Lesson 10 – Project 4: Personal Macro Workbook Macros

For completing Module 2 this is my **reward**→ _____

Module 3 – Discover the VBA Editor

- ☐ Lesson 1 – Unlock the Power of Macros with the VBA Editor
- ☐ Lesson 2 – Finding Your Way Around the VBA Editor
- ☐ Lesson 3 – Writing Our First Macros in the Code Window
- ☐ Lesson 4 – How to Modify Existing Macros
- ☐ Lesson 5 – The Importance of Comments for Code Readability
- ☐ Lesson 6 – Quiz

- ☐ Lesson 7 – Module 3 Projects Introduction
- ☐ Lesson 8 – Project 1: Activating the VBA Editor
- ☐ Lesson 9 – Project 2: Using the VBA Editor
- ☐ Lesson 10 – Project 3: Your First Written Macros
- ☐ Lesson 11 – Project 4: Editing your Recorded Macros
- ☐ Lesson 12 – Project 5: Make your Macros Easier to Read

For completing Module 3 this is my **reward**→ _____

Module 4 – The Excel Object Model

- ☐ Lesson 1 – Overview of the Excel Object Model
- ☐ Lesson 2 – Excel Object References and Simplifying References
- ☐ Lesson 3 – Excel Object Properties with the Macro Recorder, plus two ways to simplify references
- ☐ Lesson 4 – Excel Object Methods
- ☐ Lesson 5 – Excel Object Events
- ☐ Lesson 6 – Learning more about the Excel Object Model
- ☐ Lesson 7 – Quiz

- ☐ Lesson 8 – Module 4 Projects Introduction
- ☐ Lesson 9 – Project 1: Excel Object References Using the Dot Operator
- ☐ Lesson 10 – Project 2: Playing with Object Properties
- ☐ Lesson 11 – Project 3: Playing with Object Methods
- ☐ Lesson 12 – Project 4: Playing with Object Events
- ☐ Lesson 13 – Project 5: Using the Excel Object Browser

For completing Module 4 this is my **reward**→ _____

Section 2 – Building your VBA Toolbox

Module 5 – Vital Building Blocks (Controlling Program Flow)

- ☐ Module 5 PDF Handout Download
- ☐ Module 5 Workbooks Download

- ☐ Lesson 1 - Variables, Constants and Data types
- ☐ Lesson 2 - Option Explicit
- ☐ Lesson 3 - Declaring Variables
- ☐ Lesson 4 - Type Mismatch and Variants
- ☐ Lesson 5 – Scope
- ☐ Lesson 6 - Declaring Constants
- ☐ Module 5 Quiz 1

- ☐ Lesson 7 - If Then (video)
- ☐ Lesson 8 - Select Case 1
- ☐ Lesson 9 - Select Case 2
- ☐ Lesson 10 - For Next
- ☐ Lesson 11 - For Each Next 1
- ☐ Lesson 12 - For Each Next 2
- ☐ Module 5 Quiz 2

- ☐ Module 5 Projects Introduction
- ☐ Project 1 - Declaring Variables
- ☐ Project 2 - Declaring Constants
- ☐ Project 3 - Option Explicit
- ☐ Project 4 - Scope
- ☐ Project 5 - If Then
- ☐ Project 6 - Select Case
- ☐ Project 7 - For Next
- ☐ Project 8 - For Each

For completing Module 5 this is my **reward**→ _____

Module 6 – The Big Three (Workbooks, Worksheets, Ranges)

- ☐ Module 6 PDF Handout Download
- ☐ Module 6 Workbooks Download

- ☐ Lesson 1 - Introduction to the Big Three
- ☐ Lesson 2 - Workbooks (No User Input)
- ☐ Lesson 3 - Workbooks (User Input)
- ☐ Lesson 4 - Workbooks (Information / Properties)
- ☐ Lesson 5 - Worksheets (Names)
- ☐ Lesson 6 - Worksheets (Add)
- ☐ Lesson 7 - Worksheets (Delete)
- ☐ Lesson 8 - Worksheets (Move Copy Hide Protect)
- ☐ Module 6 Quiz 1

- ☐ Lesson 9 - Ranges (basics part 1 - Select)
- ☐ Lesson 10 - Ranges (basics part 2 - Write and Read)
- ☐ Lesson 11 - Ranges (basics part 3 - Copy values and Clear contents)
- ☐ Lesson 12 - Ranges (Borders)
- ☐ Lesson 13 - Ranges (Comments)
- ☐ Lesson 14 - Ranges (Cut Copy Paste)
- ☐ Lesson 15 - Ranges (Paste Special)
- ☐ Lesson 16 - Ranges (Insert Delete Hide Unhide)
- ☐ Lesson 17 - Ranges (Rows and Columns)
- ☐ Lesson 18 - Ranges (Resize)
- ☐ Lesson 19 - Ranges (Offset Intersect Union)
- ☐ Lesson 20 - Ranges (Variable Size)
- ☐ Module 6 Quiz 2

- ☐ Module 6 Projects Introduction
- ☐ Project 1 - Save and Close Workbooks
- ☐ Project 2 - Create new Workbook for each Worksheet
- ☐ Project 3 - Protect all Worksheets
- ☐ Project 4 - Synchronize Worksheets to the Activesheet View
- ☐ Project 5 - Sort Sheets Alphabetically (Challenge)
- ☐ Project 6 - Learning About

For completing Module 6 this is my **reward**→ _____

(EXTRA SPECIAL REWARD FOR COMPLETING THE LONGEST MODULE!)

Module 7 – User Interaction (Input Boxes, Message Boxes, User Forms)

- ☐ Module 7 Workbooks Download

- ☐ Lesson 1 - Introduction to User Interaction
- ☐ Lesson 2 - InputBox Function (Simple)
- ☐ Lesson 3 - InputBox Function (Improved)
- ☐ Lesson 4 - InputBox Method (Ranges)
- ☐ Lesson 5 - Message Boxes
- ☐ Lesson 6 - Intro to User Forms
- ☐ Lesson 7 - Progress Bar Design
- ☐ Lesson 8 - Progress Bar Coding
- ☐ Module 7 Quiz

- ☐ Module 7 Projects Introduction
- ☐ Project 1 - Input Boxes
- ☐ Project 2 - Message Boxes
- ☐ Project 3 - Progress Bar User Form

For completing Module 7 this is my **reward**→ _____

Section 3 – Programming in VBA

Module 8 – Named Ranges

- ☐ Module 8 Workbooks Download

- ☐ Lesson 1 - Introduction to Named Ranges
- ☐ Lesson 2 - Adding and Resizing Named Ranges
- ☐ Lesson 3 - Selecting and Looping Named Ranges
- ☐ Lesson 4 - Deleting Named Ranges
- ☐ Module 8 Quiz

- ☐ Module 8 Projects Introduction
- ☐ Project 1 - Adding Named Ranges
- ☐ Project 2 - Resizing Named Ranges
- ☐ Project 3 - Deleting Named Ranges

For completing Module 8 this is my **reward**→ _____

Module 9 - Excel Tables VBA

- ☐ Module 9 Workbooks Download

- ☐ Lesson 1 - Introduction to Excel Tables
- ☐ Lesson 2- Table Anatomy (Creating new Tables, Selecting Table Parts)
- ☐ Lesson 3 - Sorting, Filtering and the Total Row Calculations
- ☐ Lesson 4 - Table modifications (Insert, Remove, Clear)
- ☐ Module 9 Quiz

- ☐ Module 9 Projects Introduction
- ☐ Project 1 - Adding Excel Tables
- ☐ Project 2 - Sorting and Filtering Excel Tables
- ☐ Project 3 - Keeping the Top 20 Percent of Test Scores

For completing Module 9 this is my **reward**→ _____

Module 10 - Arrays (plus... Student Grading Spreadsheet)

- ☐ Module 10 Workbooks Download

- ☐ Lesson 1 - The Benefits of using VBA Arrays
- ☐ Lesson 2 - Static Arrays
- ☐ Lesson 3 - Dynamic Arrays
- ☐ Lesson 4 - Overview of Student Grading Spreadsheet
- ☐ Lesson 5 - VBA Deep Dive into Student Grading Spreadsheet
- ☐ Lesson 6 - BONUS: Filter and Sort using Worksheet Events
- ☐ Lesson 7 - Program Development Cycle
- ☐ Module 10 – Quiz

- ☐ Module 10 Projects Introduction
- ☐ Project 1 - Static 1D Arrays
- ☐ Project 2 - Dynamic Arrays

For completing Module 10 this is my **reward**→ _____

(EXTRA BIG REWARD FOR COMPLETING THE WHOLE COURSE!)

Build good learning habits…

Let me encourage you to make a habit of setting aside a regular time to study this course. I recommend studying for 40 minutes at a time.

Find a daily time that works best for you.

Maybe it's 40 minutes in the mornings before anything else. Or 40 minutes around lunch time. Or perhaps you prefer 40 minutes in the evening.

You also need enough space to focus when you watch the video lessons and do the quizzes.

Remember to pause and rest frequently to allow your brain to move concepts into long term memory.

Give yourself rewards!

You'll notice there are spaces in the curriculum for you to write out rewards for completing each module. I recommend you:

1. Print out this e-book
2. Track your progress by checking off each lesson you complete
3. Write rewards for completing each module
4. Reward yourself as soon as you can after completing each module!

This can really help you set up a positive feedback cycle. The more you learn, the more rewards you get. Give yourself bigger rewards for bigger modules (like module 6). And save the biggest reward of all for finishing the course!

Make sure you pick rewards that are going to motivate you! Some ideas for self-rewards:

Entertainment: go to a concert, listen to an awesome podcast / TED talk, marathon your favorite show on Netflix, play a console game / favorite online game, watch (or re-watch) a movie at home, have a night out with friends, play pool…

Food: buy your favorite snack, cook your favorite dish, eat at your favorite restaurant, order a special dish that's expensive, get food delivered to your home, treat yourself to a smoothie, eat out with friends…

Free: call (or spend time with) a friend or family member who makes you smile, take some personal time off to do anything you want, draw or doodle, enjoy a bubble bath or long shower, play a card game (with or without friends), go for a long walk somewhere scenic, have a guilt-free nap

Shopping: go on a shopping trip, get yourself a new gadget, buy a new (premium) app, get that special something you've had your eye on for months

Watch out for the illusion of competence…

Before you dive into the course… let me explain something very important...

There's a big difference between seeing something done by an expert and doing the same thing yourself to high standards.

You might fall for the **illusion of competence**.

Let me explain with a personal example…

I don't cook much and I definitely don't have a flair for cooking.

But if I watch a Michelin-star chef on a cooking program, I might think "That looks pretty easy. Just follow the recipe and I'll have a wonderful dish in no time".

And… when I get into the kitchen and try cooking the same dish for the first time, I find I can't do it!

It's not as simple as it seemed for the top class chef…

Why not?

Becaues of the illusion of competence…

I fooled myself into thinking that just because it looks easy for someone else, it's going to be easy for me too.

Don't fall into the trap

The same thing can happen to you with this course! (unless you watch out for it)

If you watch the video lessons and perhaps answer a couple of the quizzes, you might think "That part looks pretty easy. I just click on those buttons, and write that code."

It seems easy.

But when you get into Excel and try repeating the steps (without looking at the videos) you might find it's not as simple as when you were just watching.

Build real competence, not an illusion of competence.

Make sure you watch the videos carefully, then do all the quizzes and try out all the projects.

Get hands on with actual practice… and you'll avoid the illusion of competence.

Most of all have fun!

Enjoy learning and you will learn better and faster.

When you make mistakes, just go back and try again. Sometimes learning by trial and error helps you learn deeper.

Don't take yourself too seriously… we all make errors when pushing past our comfort zones.

And… we will have fun together in this course.

I will take you from VBA beginner to VBA programmer.

You'll watch step-by-step tutorial videos and try some fun / challenging VBA projects (including a simple Tic-Tac-Toe generator).

Let's enjoy the journey together!

- Victor Chan
(Course instructor)