



EXCEL VBA & MACRO AUTOMATION WITH AI

HRD Corp Claimable Courses

Duration: 2 days

Time: 9.00am to 5.00pm

Includes

ChatGPT, Claude & Copilot Integration for Code Assistance

INTRODUCTION

In today's fast-paced workplace, efficiency is no longer a luxury—it's a necessity. Many Excel users find themselves repeating the same manual steps every day, whether it's cleaning data, generating reports, or exporting multiple sheets. While Excel formulas can handle calculations, true workflow automation requires taking advantage of **Macros and VBA (Visual Basic for Applications)**. With the right skills, repetitive work can be reduced from hours to seconds.

This **2-day practical course** equips participants with the ability to automate Excel processes through VBA and Macros, even if they have never written a single line of code before. By starting with simple macro recording and gradually introducing VBA scripting, the training ensures a smooth learning curve while focusing on tasks participants actually perform in their day-to-day work.

A unique feature of this course is the integration of **AI coding assistants**—namely **ChatGPT, Claude, and Microsoft Copilot**—into the learning process. These tools will help participants write, refine, and debug VBA code in real time, making automation accessible even to those with minimal technical background. Instead of struggling with syntax or searching for code snippets online, participants will learn to use AI effectively as a coding partner.

By the end of the training, attendees will be able to create reusable macro tools, develop custom Excel commands, and confidently automate multi-step processes. Whether it's generating monthly reports, formatting spreadsheets, or batch-processing multiple files, participants will leave with hands-on experience and ready-to-use solutions that save hours of manual work.

LEARNING OBJECTIVES

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

1. Understand the fundamentals of Macros and VBA in Excel.
2. Record, edit, and run macros to automate repetitive tasks.
3. Use AI tools (ChatGPT, Claude, and Microsoft Copilot) to write, enhance, and debug VBA code.
4. Create reusable macro tools for formatting, reporting, and data exports.
5. Automate multi-sheet and multi-file operations with minimal coding effort.
6. Design user-friendly forms and interfaces for easier tool deployment.
7. Apply best practices for maintaining and sharing automation tools in a work environment.

LEARNING OUTCOMES

After completing this course, participants will be able to:

- Confidently automate Excel workflows without advanced programming knowledge.
- Record, customize, and assign macros to buttons, shapes, or workbook events.
- Collaborate with AI tools to solve coding problems and improve macro efficiency.
- Create user-friendly automation tools for colleagues and non-technical staff.
- Process large volumes of data across multiple sheets and workbooks efficiently.
- Reduce human error by standardizing repetitive processes through automation.
- Integrate AI-assisted VBA solutions into real workplace scenarios.

WHO SHOULD ATTEND

This course is ideal for:

- **Administrative Staff** managing routine data entry, formatting, and reporting.
 - **HR & Payroll Teams** generating standard employee reports and salary summaries.
 - **Finance & Accounting Staff** preparing monthly statements and reconciling data.
 - **Operations & Logistics Personnel** working with bulk records and multiple files.
 - **Data Analysts & Coordinators** looking to streamline repetitive data cleaning tasks.
 - Any Excel user eager to automate daily work and reduce time spent on repetitive tasks, regardless of prior coding experience.
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PROGRAM OUTLINE

Day 1: Macro Foundations, Basic VBA & AI Prompting

Module 1: Understanding Macros and VBA Basics

- What are Macros and VBA?
 - When and why to use VBA
 - Security settings for Macros
 - ✂ *Activity:* Record and run a simple macro for formatting a table
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Module 2: Exploring the VBA Editor

- Accessing and navigating the VBA Editor
 - Modules, procedures, and object model overview
 - Saving and opening .xlsm files
 - ✂ *Activity:* Write a sub-procedure that changes cell colors and headers
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Module 3: Variables, Ranges & User Interaction

- Declaring variables and using Dim, Set
 - Working with Range, Cells, and Worksheets
 - Message boxes (MsgBox) and input boxes (InputBox)
 - ✂ *Activity:* Create a macro to collect a name input and write it into a cell
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Module 4: Loops and Logic

- For...Next, Do While, and If...Then logic
 - Loop through rows, columns, and sheets
 - Apply conditions inside loops
 - ✂ *Activity:* Loop through a range and highlight values over a threshold
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Module 5: AI-Powered Code Writing & Debugging

- Using ChatGPT & Claude for:
 - Writing new macros from natural language
 - Explaining or optimizing existing code
 - Using Copilot in Excel (if available) for suggestions and troubleshooting
 - ✂ *Activity:* Describe a macro task to ChatGPT, copy generated code into Excel, and run/debug it
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✓ End of Day 1 Mini Project:

Build a basic macro-enabled report that formats and summarizes input data, with at least one loop and user prompt, guided by AI support.

Day 2: Automation Projects, File Handling, Exporting & User Interfaces

Module 6: Exporting & Saving Worksheets with VBA

- Export as PDF, Excel, or CSV
 - Save with dynamic file names (e.g., date or sheet name)
 - Define custom paths and use ThisWorkbook.Path
 - ✂ *Activity:* Write a macro to export each sheet as an individual file to a folder
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Module 7: Multi-Sheet Automation

- Loop through sheets
 - Apply formatting or formula updates across all tabs
 - Build summary sheet from all worksheet data
 - ✂ *Activity:* Create a macro that loops through all department sheets and consolidates totals
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Module 8: File Handling & Folder Operations

- Open, close, and save files using VBA
 - List files from a folder
 - Import data from multiple workbooks
 - ✂ *Activity:* Write a macro to pull totals from all Excel files in a folder
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Module 9: Error Handling & Code Optimization

- On Error Resume Next / GoTo
 - Clean code structure and indentation
 - Add comments and documentation
 - ✂ *Activity:* Add error handling to an existing export macro and test scenarios
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Module 10: Building Reusable Macro Tools & Interfaces

- Assigning macros to buttons
- Creating simple user forms for automation
- Locking sheets and protecting macros
- ✂ *Activity:* Build a dashboard sheet with buttons: "Format Report", "Export PDF", "Consolidate Data"

Module 11: AI Tools for Advanced Macro Building

Prompt ChatGPT to create:

- A macro to email Excel data
- A macro to create charts automatically
 - Use Claude to convert pseudocode into VBA
 - Prompt Copilot to fix a broken VBA loop
- ✂ *Activity:* Use AI to build a bonus calculator macro based on user input

METHODOLOGY

The training follows a **hands-on, step-by-step** approach, ensuring participants learn by doing:

1. **Concept Demonstration** – Trainer-led explanations with live Excel demonstrations to show practical applications of Macros, VBA, and AI assistance.
2. **Guided Practice** – Participants follow along on their own workstations to record, edit, and run macros using sample datasets.
3. **AI Integration Sessions** – Practical exercises where participants use ChatGPT, Claude, and Microsoft Copilot to generate or debug VBA code in real time.
4. **Project-Based Learning** – Small automation projects designed to simulate real workplace scenarios (e.g., report generation, batch file processing, automated formatting).
5. **Q&A and Troubleshooting** – Interactive problem-solving sessions where participants bring their own workflow challenges and receive tailored macro/AI solutions.
6. **Take-Home Tools** – Participants leave with reusable templates and scripts they can adapt immediately for their work environment.

TRAINER'S PROFILE

About the Trainer Clara Tan Chai Fang.

Clara is an HRDC Accredited Trainer, Excel Expert, and AI & Automation Specialist with a solid academic background—a Degree in Mathematics Education from Universiti Putra Malaysia (UPM). With extensive experience in data analysis, workflow automation, HR analytics, and marketing insights, she empowers organizations to transform raw data into valuable, actionable insights. Clara is proficient in Microsoft Excel (Beginner to Advanced), Power Query, Power Pivot, SQL, Google Workspace, PowerPoint, Word, Canva, and AI tools such as ChatGPT. Her expertise lies in combining technical knowledge with business acumen to create efficient, data driven strategies. She offers a wide range of training programs, including Microsoft Excel for all levels, Data Analysis & Visualization, HR & Marketing Analytics Using AI & Excel, Data Automation & AI for Businesses, and Professional Portfolio Building using Google Sites.



Clara's sessions are practical and results-oriented, using on real-world applications like dynamic dashboards, streamlined reporting, and effective data storytelling. Her training also emphasizes modern business tools and how to use AI effectively for content creation, marketing, automation, and improved decision-making. Clara has developed impactful data models and automation solutions, such as an attendance tracking system that processed over 100,000 rows of student data, a centralized database integrating student IDs, attendance, and parent contact info, and a performance evaluation model using over 60 data tables. She also built dynamic reports that enhanced strategic planning for educators and administrators. Passionate about digital empowerment, Clara's engaging, hands-on approach makes her a highly sought-after trainer for professionals, educators, and businesses aiming to thrive in a data driven world.

Professional Experience:

- Developed an automated attendance tracking system, processing 100,000+ rows of student data using Power Query.
- Integrated data from three different tables (student ID, attendance records, parent contact) to create a centralized database for tracking attendance trends.
- Designed a student transition rate model using Power Query for data modeling and Power Pivot for monthly comparison analysis.
- Built a student performance evaluation model by integrating 60+ data tables (e.g., meeting attendance, hand-raise time, test scores) for automated monthly performance tracking.
- Created dynamic reports and dashboards to visualize student performance trends, enabling better decision-making for educators and administrators.

Soft Skills:

- Analytical Thinking
- Problem-Solving
- Attention to Detail
- Communication & Collaboration
- Time Management

PARTICIPATION REGISTRATION & FEE

To register and to obtain the latest participation fees either for Public Training or In-House Training Series, please email to marketing department at mytrain2@mytrainingmalaysia.com

Registration via online can be done thru our website at www.eliteedge.com.my

ORGANISED BY

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