



## Course Overview - Formulas, Macros & Power Query for Excel

A one day workshop on Excel formulas, such as VLOOKUP and its successor XLOOKUP, aggregations such as SUMIFS, TEXTJOIN, conditional functions such as IF, SWITCH and more listed below. We also cover data validation to ensure robustness and modern tools such as images inside cells, live exchange rates and more. Finally we will go through macros for automation and Power query which is Excel's built in data transformation tool which has been game changing for those working to reshape data, or those who import data into Excel and find copy & paste is tedious and time consuming.

### Learning objectives

By the end of workshop participants should be able to:

- Create Power Query steps to automate data reshaping
- Automate how to clean up messy data exports from other systems
- Record macros and edit via the VBA code editor
- Advanced copy & paste and data validation for robust data
- Use VLOOKUP and its successor XLOOKUP to merge tables
- Use IF and SWITCH for conditional formulas
- Aggregate with AVERAGE, TEXTJOIN, SUMIFS, AGGREGATE & more

### Pre-requisites

This workshop is aimed at people using Excel for 3 or more hours per week, all regular Excel users can benefit, particularly those who require more advanced formulas, data manipulation and automation.

### Proposed Contents

| Formulas & issues               | Aggregations                  | XLOOKUP & VLOOKUP                                             | IF and dynamic arrays                                         |
|---------------------------------|-------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| Using \$ - absolute referencing | SUMIFS & COUNTIFS formulas    | Merge tables & automate with the newest formulas              | Conditional logic for exceptions and branching                |
| Ways to spot errors             | Using AGGREGATE               | Drop down lists & data validation                             | Join nested ifs & SWITCH                                      |
| Fill formulas in new ways       | ROUND your AVERAGES & IFERROR | The skill which separates the beginner from the advanced user | Using dynamic arrays: TEXTSPLIT, VSTACK, UNIQUE, FILTER, SORT |

### Power Query & transformations

| Power Query | Arrange & print data | VBA and macros | Microsoft 365 new features |
|-------------|----------------------|----------------|----------------------------|
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|                                                             |                                                      |                                                               |                                                                      |
|-------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------|
| Excel's biggest change in 25 years                          | Advanced copy & paste you wished you knew years ago! | Record your actions using the macro recorder                  | Working with images (image to table, images in cells)                |
| Transform tables from one shape to another without formulas | Perfect printing in 3 ways                           | Getting around the VBA code editor                            | Get currency rates present and historic                              |
| Combine multiple files into one table                       | Sort & Filter                                        | VBA terms and when to use Power Query over VBA for automation | Reduce file size, navigation menus, track changes by cell and person |

### Take home materials and documentation

1. Post training website featuring all post course resources [like this one](#) with:
  - a. Written notes on the key points covered
  - b. YouTube videos from the trainer's 12,000+ subscriber tutorial channel
  - c. Slides which were covered in class
  - d. The completed exercise files