

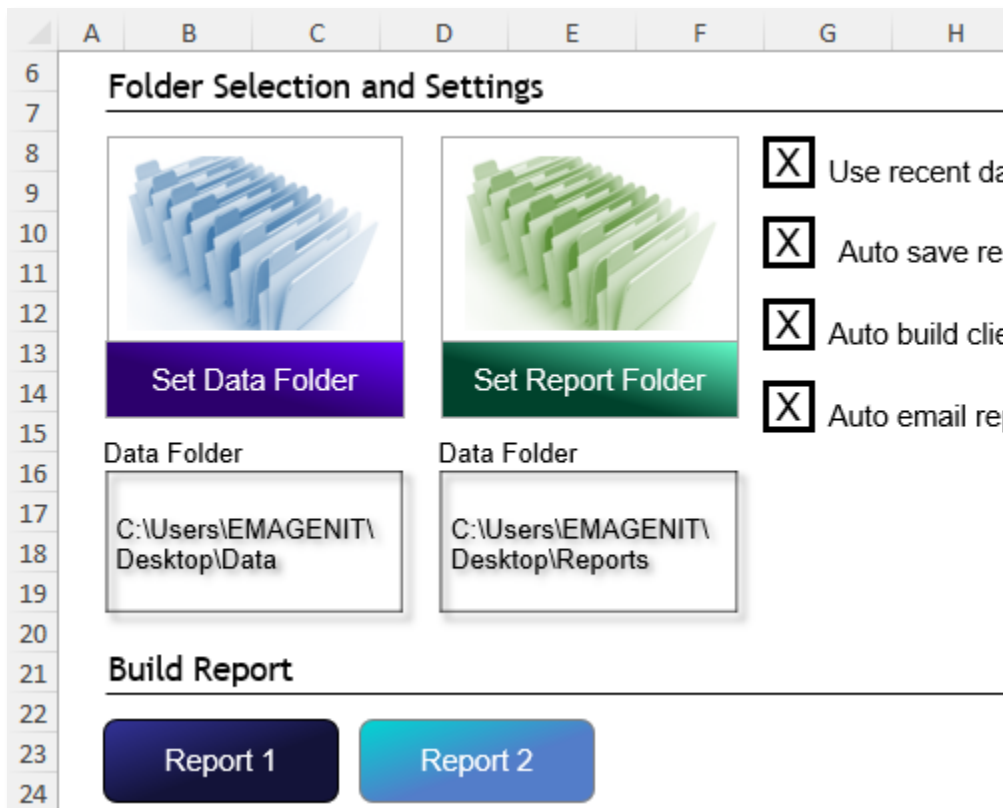


Microsoft Excel Training and Software Design  
[www.emagenit.com](http://www.emagenit.com)

For a video presentation of our class, please visit  
[https://emagenit.com/excel\\_vba\\_data\\_process.html](https://emagenit.com/excel_vba_data_process.html) >

Questions? 1.805.498.7162

# Excel VBA Data Processing for Business and Industry



Learn to create powerful data tools in Excel VBA that quickly process, integrate, and report data from multiple sources, files, and folders.

# How our class can help you.

Our 2-day class shows you how to combine Excel's "built-in" data abilities with VBA to build powerful data processing tools.

It focuses on the key Excel VBA topics needed to format, calculate, reorganize, chart, and report various types of data.

Also covered is how to create high-tech reporting tools that can read multiple data sources like databases, text files, and workbooks; scan multiple folders and drives; and then integrate and process the data.

It will also show you how to use Excel VBA to process stacked non-standard worksheet and text file datasets and how to use VBA / Outlook to automatically email reports to your associates.

Join us and our class will show how to swiftly crunch your data using Excel and VBA.

## Key Excel VBA topics covered in class.

- Review of the VBA Editor, Excel VBA language, and the debugger
- Using functions and VBA to rapidly calculate dataset data and build / fill formulas
- Using Excel VBA to control data / report workbooks and organize them in folders
- Building loops and logic to find, format, and shape (i.e., insert, delete...columns) datasets on multiple worksheets
- Using Excel's data tools, PivotTables, and VBA loops to rapidly process large datasets
- Building adaptive loops and logic to process financial, inventory, stacked / broken, grouped... datasets
- Performing multi-table lookups and calculations in your datasets using Excel VBA
- How to design effective UIs on the worksheet to control your data tools and email your reports
- How to use VBA to build, fill, calculate, and format various report tables and forms
- Using VBA to build / format report grade charts and layout multiple charts on a worksheet
- How to open, process, write, and close text files
- Using VBA, Power Query, and ADO to integrate database, workbook, and text file data

- How to scan and process data stored in folders, open workbooks, and on multiple worksheets

## **Excel VBA skills needed for our class.**

Select this Excel VBA training if you or your group have:

- Used variables, loops, functions, declarations... in a basic capacity in VBA
- Used and written basic logic in VBA
- Formatted worksheets and know Excel's basic formatting capabilities
- Used Microsoft Excel's data tools manually and know them operationally
- Built charts and drawing shapes manually before in Microsoft Excel
- Have used Excel's worksheet functions like MATCH, COUNTIF, SUMIF, VLOOKUP...

## **Who should attend?**

- All disciplines welcome with class problems determined by those in attendance.

## **How we run the class.**

We focus our training on what our customers need. When training begins, we analyze those needs and shift our outline appropriately. We will stress topics or add topics that our customers want. No two training sessions are ever the same with EMAGENIT.

## **Detailed class syllabus.**

### **Day-1**

#### **Excel VBA Language, VBA Editor, Object, and Debugging Review (Discussed Where Needed)**

- Review of using the VBA Editor windows and debugging tools
- VBA language review including variables, data types, constants, arrays, operators, expressions, loops, logic decisions, functions, and calling conventions
- Designing logic for your data processing tasks
- Design strategies for creating and using object expressions to track objects in your code

- Using the Set statement, CreateObject, and GetObject to track Excel objects as well as other program objects in your code
- How to create error handlers and the logic to handle run-time errors in your macro code

## Using VBA and Functions to Rapidly Calculate Data and Build / Fill Formulas

- Dynamically tracking worksheet data ranges in your macro code using MATCH, COUNTA, Range, Cells, Columns, Rows, CurrentRegion...
- Performing math and statistical operations in your code using functions like SUM, MAX, MIN, SUMIFS, AVERAGE, COUNTA...
- Performing date time operations in your code using functions like Month, Year, DateDiff, DatePart, Format, NETWORKDAYS, EOMONTH...
- Using macros to build and auto fill formulas down or across worksheet datasets
- Using Excel VBA to build formulas or place calculated values below or beside datasets
- Automating the Analysis Toolpak to analyze worksheet datasets

## Controlling Workbooks and Organizing Them in Folders with Excel VBA

- The benefits of making and managing your own folder system to store program workbooks, text files, documents...
- Controlling workbooks in your code using Open, Close, Save, SaveAs, and Add
- Using the Set statement in Excel VBA to track multiple workbooks at once in your code
- Controlling the Windows folder / file system in your code using FileSystemObject, File, Folder...
- How to test for folder / file existence in your macro code using FolderExists, FileExists...
- How to use concatenation in your code to build folder paths and filenames for your report / data workbooks

## Using Excel VBA to Dynamically Shape, Format, and Find Resizing Worksheet Datasets

- How to dynamically track range data size, position, headers, and data subsets using MATCH, Range, Cells, Find, CurrentRegion, Address...

- Using Excel VBA to dynamically format resizing dataset fonts, cell colors, number formats, alignments, borders...
- Using macros to automatically insert, delete, and move dataset cells, rows, and columns
- How to build and loop worksheet tables that guide VBA on what rows / columns to delete, move, and insert
- Using loops and logic to find and format multiple datasets on multiple worksheets

## Using Excel's Data Tools with VBA Loops to Rapidly Process Large Datasets

- How to dynamically track ranges, headers, and position using MATCH, Range, Cells, CurrentRegion, Find, Address...
- Using Excel VBA to automate AutoFilter, Advanced Filter, Sort, PivotTables, and Remove Duplicates
- Using macros to copy and paste filtered data to a report worksheet
- Generating a report name list from a worksheet dataset using Remove Duplicates, Sort, and VBA
- Looping through a report name list and adding report worksheets to a report workbook in a specific order
- Looping Excel's filters in your code and stacking the data on specific report worksheets
- Using loops and logic to build and stack PivotTables on the worksheet

## Building Adaptive Loops and Logic to Process Complex Worksheet Datasets

- Overview of using loops, logic, functions, counters, Cells, Range, Offset... to build adaptable data processing programs
- Using cell formats and data patterns as logic triggers when processing data
- Using loops and logic to process datasets like financial downloads, inventory, stacked / broken tables, multi-column grouped data...
- Detecting and inserting different formulas in worksheet dataset breaks (i.e., text) using Excel VBA
- Performing worksheet table lookups in your code using VLOOKUP, SUMIFS, MATCH, Cells, Offset, Find...
- Using loops and logic to color data points based on worksheet table lookups

- Using Excel VBA to lookup up data in multiple worksheet tables and perform calculations
- Using loops and logic to reorganize worksheet datasets into different configurations

## Day-2

### Creating, Filling, and Formatting Report Tables and Forms Using Excel VBA

- Using MATCH, COUNTIF, COUNTA, Find, CurrentRegion... to dynamically find worksheet table position, headers, size, end rows...
- Using Excel VBA to create summary report tables "on the fly" like inventory, human resources...
- Building loops and logic to fill in various data patterns like stacked tables, 2-d tables, multi-column grouped data...
- Automatically formatting various data patterns on report worksheets including data subsets
- Rules for designing pre-built worksheet report templates to ease code complexity, mark report table start cells
- Using loops and logic to fill out and calculate premade worksheet forms

### Designing Effective UIs to Control Your Excel VBA Data Tools and Email Reports

- Using Data Validation, shapes, pictures, and VBA to quickly build the interfaces that control your Excel VBA data tools
- Using the FileDialog object in VBA to construct file and folder pickers for your data tools
- Using shapes and VBA to create hi-tech status displays, path displays, and large check boxes
- Integrating your UI selections in your code using logic
- Creating a basic Outlook macro in Excel VBA to automatically mail your reports

### Creating Professional Chart Reports with Excel VBA

- Using Excel VBA and templates to create various chart types like pie, line, combo charts....
- Using macros to add chart elements like data labels and gridlines

- How to use macros to format charts including coloring data points and hiding / displaying series
- How to use VBA arrays to create a chart series, a must know for emailed chart reports
- Using macros to create vertical / horizontal chart limit lines, curve fits, custom label text, position labels...
- Using Excel VBA to create and align multiple charts on a report worksheet

## Using Excel VBA to Open, Process, and Close Text Files

- Automating Text Wizard to parse and load text data directly onto a worksheet
- How to open, close, write, and modify text files using the FileSystemObject and TextStream objects
- Using loops, logic, arrays, and functions to scan and analyze text file data and output the results to an Excel worksheet
- Cleaning and parsing corrupted text files using VBA, functions, the worksheet, and Text to Columns
- Using loops, logic, and string concatenation to assemble text data and write it to a text file

## Large Scale Multi-Workbook, Worksheet, and Text File Processing Using VBA

- Scanning open workbooks and worksheets for specific datasets using For...Each Next loops, logic, and functions
- Scanning folders for specific data workbooks and text files using For...Each Next loops, logic, and functions
- Designing scalable procedures that adapt to data in n...workbooks, worksheets, and text files

## Using VBA, Power Query, ADO to Integrate Database, Workbook, and Text File Data

- Review of ADO and how it can be used to query different data sources in Excel VBA tying them together
- Basic SQL language review and how it is used to query, update, insert, and delete database data
- How to use ADO to query and control databases like SQL Server, Oracle, and Microsoft Access

- How to use ADO and SQL to query and process data in workbooks and text files
- Using string concatenation to assemble SQL statements and ADO connection strings in your VBA code
- Design methods for using Power Query, Excel tables, and VBA to quickly integrate and filter data from different sources
- Using VBA and Record Macro to control Power Query and Excel table settings