

# Excel with Macros & VBA – 2 – Data Analysis – Course Outline

## A. Course Description

Learn how to automate Data Consolidation of files that have a “standardized (uniform) structure and content”, as well as files those that do not. Learn to Automate: PivotTable analysis, Data Filters, Sorts and Subtotals, as well as the Creation of Charts. Create macros for these features, and learn to dynamically recognize the database row growth and column structure changes. Also, learn to accept user inputs that control what a macro will do. And learn to “trap run-time errors” caused by unexpected user inputs.

## B. Performance Expectation

This course augments a student’s understanding of Macro Recording Best Practices. This enables macro code to be generated for Excel Data Analysis, requiring little or no modification, so that macros can be executed free of errors, independent of actions taken by end users. Students also learn to incorporate special VBA\* code tools that are designed to handle processing that’s not possible through code that’s generated by macro recording. This is all done by working through a number of data analysis exercises.

## C. Learning Outcomes

1. Learn to create “Permanent Links” between different files that allows for source file changes.
2. Learn the difference between “Permanent” and “Current Period” Consolidation Links between files
3. Learn to handle the selection of a column of data that may be one of many columns within a list.
4. Learn how the use of a VB\* Editor Option can greatly help in eliminating variable name code errors.
5. Learn the importance of Macro Recording Planning and “testing the plan” prior to macro recording.
6. Learn to recognize how use of Range Names can lead to run-time errors and how to avoid the error.
7. Learn how use of a Summary File’s Name can cause a run-time error and how to avoid the error.
8. Learn Best Practices to handle the Opening of Files to avoid run-time error conditions.
9. Learn how “real-time” methods for File Open or Switching can cause errors and how to avoid them.
10. Learn how a “real-time” method for Pasting Data can cause an error and how it can be avoided.
11. Learn to incorporate a special VBA tool that eliminates potential File Path errors on the open of files.
12. Learn to transform file specific code into generic code, that’s used in a loop, to process multiple files.
13. Learn to use an InputBox command to accept user input that determines what a macro will do.
14. Learn to incorporate macro Error Trapping Code to cause run-time errors to become “user friendly”.
15. Learn the difference between Elementary and Enhanced Error Trapping and what’s needed for each.
16. Learn to use Excel’s built-in feature to automate the consolidation of a set of non-standardized files..
17. Learn to Filter a data list and show the Filter Status by using Option Buttons and the Advanced Filter.
18. Learn to use a special VBA tool to enable the generation of code for multiple PivotTable analysis.
19. Learn to automate the sort and subtotal of a PivotTable, as well as doing the same on source data.
20. Learn to generate code for the use of a Chart Template for the creation of a chart.
21. Learn to generate code for the automation of a chart that uses a Template.