

# Excel VBA, Automation, Reports and Dashboards

## Course Outline

### Session # 1

#### Fundamentals of Spreadsheet Application Development

1. Determine the needs of user.
2. Plan an application that meets these needs.
3. Determine the most appropriate user interface.
4. Create the spreadsheet, formulas, macros and user interface.
5. Test and debug the application.
6. Attempt to make application bulletproof.
7. Make the application aesthetically appealing and intuitive.
8. Document the development efforts.
9. Distribute the application.
10. Update the application when necessary.

### Session # 2

1. Basics of VBA [ Code, Module, Procedure, Methods, Properties).
2. Introduction of Visual Basic Editor.
3. The Macro Recorder.
  - a. What Macro Recorder Record.
  - b. Recording Options.
  - c. Cleaning Up recorded Macros.
4. Objects and Collections.
5. Properties and Methods.
6. Working with Range Object
  - a. The Range Property.
  - b. The Cell Property.
  - c. The Offset Property.
7. Classroom Exercises

### Session # 3

#### VBA Programming essentials

1. Variables, datatypes and Constants.
2. Arrays.
3. Object Variables.
4. User Defined data types.
5. Built-in functions.
6. With – End With Construct
7. Loops
8. Select Case Construct
9. Classroom Exercise

## Session # 4

### Working with VBA Sub Procedures

1. Declaring and Creating VBA Sub Procedures.
2. Executing procedures.
3. Passing Arguments to Procedures.
4. Error Handling.
5. Classroom Exercises.

## Session # 5

### Working with Pivot Tables and Reports

1. Creating Pivot Tables with VBA.
2. Creating Multiple Pivot Tables in one go.
3. Creating a reverse Pivot Table.
4. Classroom Exercises.

## Session # 6

### Working with Function Procedures

1. Why create functions.
2. Understanding difference between Sub Procedure and Function Procedure.
3. Using the function in a worksheet.
4. Using function in VBA procedure.
5. Function Examples.
6. Classroom Exercises.

## Session # 7

### Custom Dialog Box Alternatives

1. Using an input box to get user input.
2. Using a message box to display messages or to get simple response.
3. Selecting a file from a dialog box.
4. Selecting a directory.
5. Displaying a data form.
6. Classroom Exercises.

## Session # 8

### Introducing User Forms

1. Creating, showing and unloading user Forms.
2. Exploring User Form controls.
3. Setting properties of User Form controls.
4. Controlling User Forms with VBA procedures.
5. Types of Events relevant to User Forms and Controls.
6. Classroom Exercises.

## Session # 9

### Working with Charts and Chart Animation

1. Essential information on Excel Charts.
2. Difference between embedded charts and Chart sheets.
3. Understanding Chart Object Model.
4. Common Charting Tasks that use VBA.
5. Useful Chart Making tricks.
6. Working with Sparkline Charts.
7. Classroom Exercises.

## Session # 10

### Creating and Automating Dashboards

1. Components that show trending.
2. Components that group data.
3. Components that show Performance against target.
4. Visualization techniques.
5. Classroom Exercises.