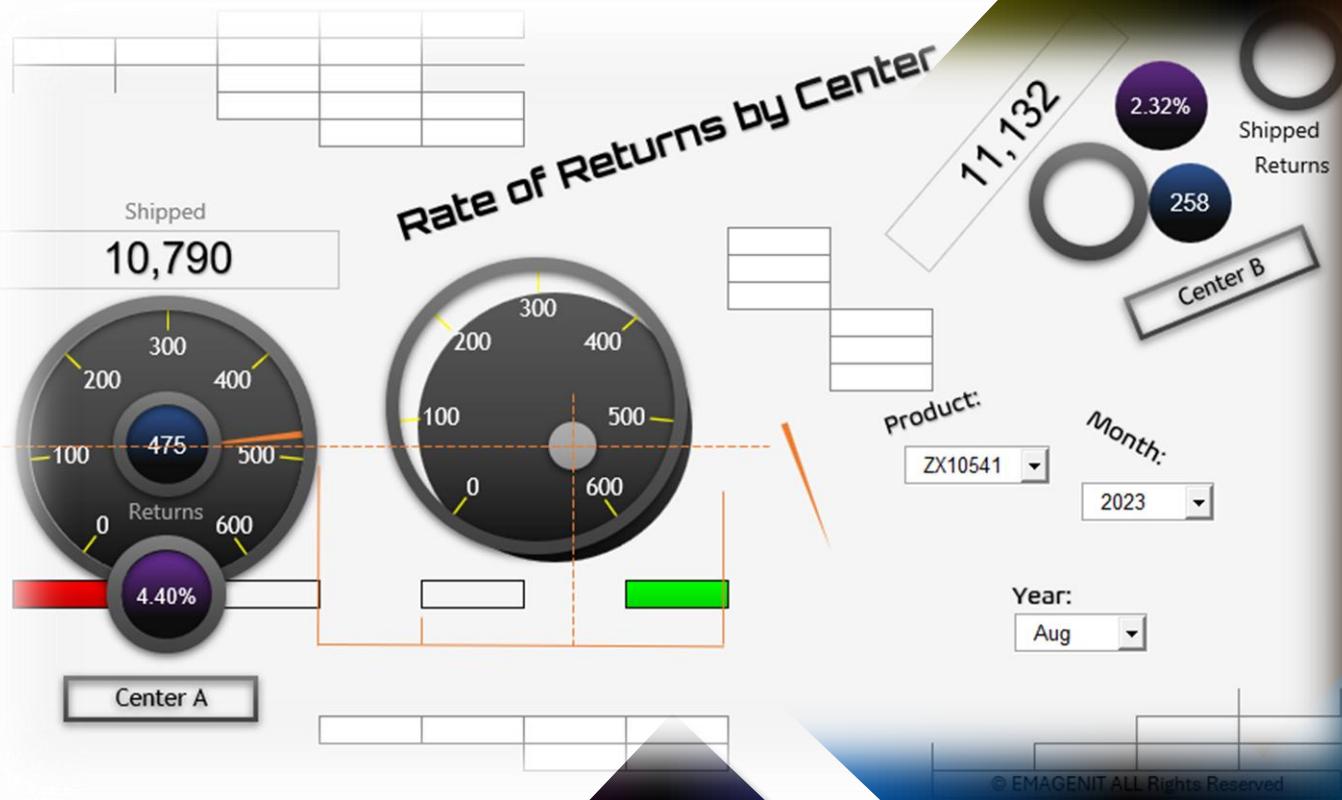


# Excel Dashboard Design

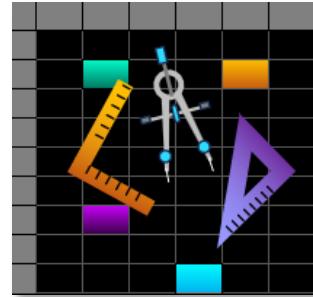
## for Business and Industry



**Tire of dashboards that don't display what you need?** Combine Excel's data, formula, and visual elements into innovative Dashboards that integrate and display your KPIs and data.

# How our class can help you.

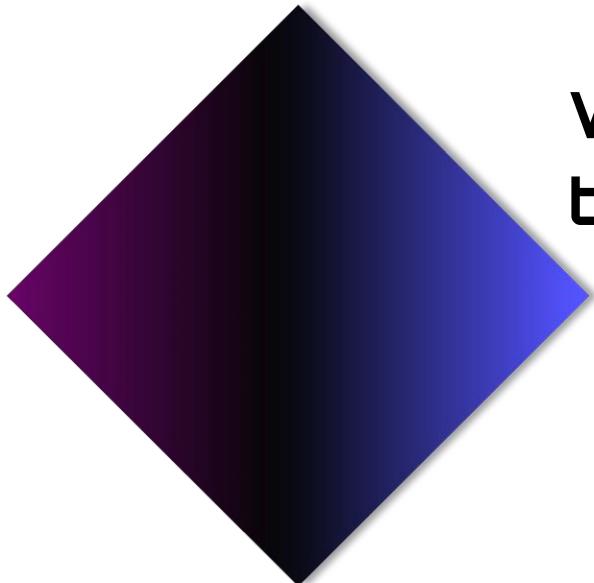
Our 1-day class shows you hands-on how to develop powerful Excel dashboards that allow you to quickly visualize your data, benchmarks and KPIs. It covers the essentials like how to analyze and calculate data using Excel's data tools, functions, and formulas. It also covers interface design and how to integrate them with your dashboards.



[Class Examples >](#)

Our class then discusses in depth how to create the various dashboard displays that organize your strategic, tactical, analytical... and KPI information. It shows you how to assemble charts, controls, shapes, pictures, Conditional Formatting, and cells into the custom displays you need to view your data.

In addition, it shows how to use Power Query to access and shape external dashboard data and how to use PivotTables in a dashboard setting.



## Who should attend the class?

Business, government, industry, military, engineering, science, techs... Class examples will be determined by those in attendance.

# Minimum Excel skills needed for the class.

Select this Excel training if you or your group have:

- Constructed general worksheet formulas like =A1+A2
- Constructed cell references and range references like A1 or A1:A10
- Used worksheet functions like SUM, MAX, MIN...before
- Used Microsoft Excel's data tools before
- Formatted a worksheet before
- Built basic charts and drawing shapes



## 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 or add topics that our customers want.

## Class formats and signup.

**In-Person, Virtually, and Onsite.** Our live hands-on classes can be attended virtually or in-person. Please visit our public signup page for [class times and pricing >](#). Contact EMAGENIT directly at **1.629.325.9937** for more information about our onsite.

# Key Excel topics covered in class.

- A review of the major dashboard types, benchmarks, and KPI's and how to use various Excel elements to build them
- Dashboard formula design, creating names, and linking workbooks and worksheets
- Processing text, dates, and performing various lookups for your dashboards
- Designing logic formulas to process dashboard data and interpret user interface selections
- Summing, counting, and analyzing dashboard data using logic functions like SUMIFS, COUNTIFS...
- Creating array formulas that process complex data patterns, filter data, and perform multi-value lookups
- How to build custom worksheet functions for your dashboards using the LAMBDA function
- Using ActiveX controls, Form controls, and Data Validation to build user interfaces that control your dashboards
- Creating and formatting various dashboard chart types and controlling them with slicers, Excel tables, ActiveX, and Data Validation
- Creating adaptive shape, picture, and worksheet cell displays using linked pictures, shapes, and ranges
- Creating dashboard map, project, timeline, and status displays
- Automatically importing, integrating, and shaping external dashboard data using Power Query
- How to use PivotTables, Pivot Charts, slicers, and timelines to calculate and build adaptive dashboard displays

# **Detailed class syllabus.**

## **Day-1**

### **Dashboard Type, KPI, and Metric Review**

- What is the difference between a dashboard and a scorecard?
- Review of the major dashboard types: operational, strategic, analytical, tactical...
- What is a benchmark, metric, and a KPI and what formula elements are used to determine them?
- What Excel elements are needed to create different style dashboards and manage their data?

### **Formula Design, Naming Cells, Linking Data, and Table Design**

- Using of absolute, relative, and mixed reference cell notation in formula design
- Designing worksheet tables and Excel tables to store your dashboard data
- Review of using Excel's Filters and Sort to preprocess your dashboard data
- How to use structured references and names to access your dashboard tables
- Different ways to rapidly link data between workbooks and worksheets
- Using structured references, spill over arrays, and functions to parse dashboard data

### **Processing Text, Dates, and Performing Lookups for Your Dashboard**

- Parsing date and time data using functions like TEXT, YEAR, TODAY, NOW...
- Parsing text data using functions like LEFT, MID, TRIM, CLEAN...
- How to use string concatenation to create lookup values, merge text data, and create date / times

- How to use the VLOOKUP, XLOOKUP, INDEX... functions to perform table lookups
- Using a structured reference to return part of an Excel table row or column in a lookup
- Using formulas, logic, and concatenation to toggle tables, columns, and rows in your formulas
- Using functions like INDIRECT, ADDRESS, OFFSET... to track dashboard data and go after data subsets

## Analyzing Dashboard Data with Logic and Statistical Functions

- Building logic formulas using the relational operators: <, >=... and the IF function
- Using the IF, IFS, AND, OR,... functions to build multi-decision and multi-condition dashboard logic formulas
- Using the DSUM, DMAX... functions to quickly calculate dashboard data
- Calculating key statistical parameters with STDEV.S, VAR.S, FREQUENCY...
- How to sum, count, and analyze your dashboard data using logic functions like SUMIFS, COUNTIFS...
- Using string concatenation to create dynamic logic for SUMIFS, MAXIFS...

## Using Array Formulas to Analyze Complex Dashboard Data

- How to tell when a worksheet function or formula can take an array and produce an array
- Using simple array formulas to clean, replace... data for functions like VLOOKUP, SUM...
- Creating array formulas that process complex datasets using logic
- Creating array formulas that perform multi-condition lookups
- How to use array formulas and spill over arrays to filter data for schedules, timelines...

## Using Lambda to Create Custom Dashboard Functions

- Using LAMBDA to create custom functions that replace your complex formulas
- How to translate your formula into a LAMBDA function
- What are parameters and how to use them in a LAMBDA function
- How to add a LAMBDA function to Name Manager
- Using your custom worksheet function in a formula

## Day-2

## Designing User Interfaces to Control Your Dashboard Displays

- Using Data Validation to control what number, text, or date is typed in your dashboard UI
- How to use Data Validation and names to create a self-adjusting cell dropdown list
- Designing formulas for your Data Validation that allow it to adjust to changing data conditions
- Using ActiveX and Form controls to control user input on the worksheet
- Creating, setting, and linking ActiveX and Form controls with worksheet cells
- Integrating UI settings with dashboard formulas and displays using logic, concatenation, and functions

## Dashboard Chart Construction, Formatting, and Worksheet Integration

- Creating and formatting chart types like column, line, xy scatter, combo...
- Creating secondary axes and curve fits for your chart data
- Building vertical and horizontal limit and control lines in your chart

- Dynamically adjusting a chart's data series using Excel tables, Slicers, and UI selections
- How to change chart data points, limit lines, and labels using UI selections
- Arranging charts, ranges, shapes, and pictures on a worksheet to form a dashboard

## Using Conditional Formatting to Build Status, Project and Timeline Displays

- The different uses of Conditional Formatting in dashboards
- A review of the different Conditional Formatting rules and how to set them up
- Using Conditional Formatting to hide or display data in a dashboard
- Using Conditional Formatting to create icon sets and data bars for dashboard data sets
- How to use Conditional Formatting to create status displays using logic and functions
- Using Conditional Formatting to color complete table areas based on logic
- Building dynamic project, timeline, and schedule Gantt charts on the worksheet using Conditional Formatting

## Creating Speedometer, Linear, and Doughnut Gauges for Your Dashboards

- Laying out and building the formulas and tables that speedometer, linear, and doughnut style gauge charts will use
- Creating a speedometer style gauge using a pie chart and shapes
- Creating a linear style gauge from a bar or column chart and shapes
- Creating a doughnut style gauge from a doughnut chart and shapes

## Day-3

### Using Linked Shapes and Pictures to Build Adaptive Dashboard Displays

- Creating various shapes and how to import a picture onto a worksheet
- Formatting, positioning, and layering shapes and pictures in the worksheet z-layer
- Design methods for linking shapes to worksheet cell data and grouping them
- Creating a linked picture that dynamically displays a worksheet range and the elements that float above it
- How to toggle worksheet pictures using dynamic names
- Combining linked shapes and dynamic pictures to produce various dashboard displays

### Excel Dashboard Map Construction

- How to import map pictures and format them for use in your dashboard
- Placing linked drawing shapes and pictures over your map to display cell data
- How to use Conditional Formatting in linked pictures to make your map light up
- Creating dynamic Bing Maps on your worksheet dashboards

### Using Power Query to Access, Integrate, and Shape Your External Data

- How to use Power Query to link with and process data in a workbook, text file, or database
- Performing various Power Query shaping tasks like merging, filtering, sorting, cleaning... data

- How to use Excel tables with Power Query to append or merge multiple Excel tables together
- How to group and calculate data in Power Query
- Using Power Query to filter data through a series of tables so the final table can be used in calculations, charts, reports...

## Using PivotTables and Pivot Charts in Your Excel Dashboards

- Laying out and organizing the Excel table that your PivotTable will use
- How to create a PivotTable / Pivot Chart and create running totals, counts, ranks, %...
- Using PivotTables in unique ways to process your dashboard data and perform calculations
- Using GetPivotData and other functions to extract pivot table data
- Setting up a dashboard using slicers, timelines, PivotTables, Pivot Charts, and formatting