December 31, 2022

**Data Visualization with Excel**

**Learning Objectives**

* Identify the guiding principles for effectively using Excel
* Identify the basic components of a data set
* Define a relational database
* Identify when you would use a relational database
* Recall how data models function within a database
* Enable PowerPivot in Excel
* Create a table in Excel
* Create a relational data model using PowerPivot
* Build a PivotTable using PowerPivot and a relational data model
* Visualize data across multiple data sources using Pivot Charts
* Create and store calculated fields in PowerPivot
* Create PowerPivot and Power Charts using calculated fields
* Create PowerPivot and Power Charts using multiple data tables and filters

## Course goals and learning objectives

**Week 1: Preparing a Professional Excel**

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**Week 2: Advanced Scenario Analysis**

* Differentiate between Scenario Analysis, Sensitivity Analysis and Simulation
* Identify tools in Excel that perform “what if” analyses when building spreadsheet models
* Determine what variable is needed to achieve end results using Goal Seek
* Determine the optimal solution to a problem using Solver
* Recognize different values for variables and compare results using Scenario Manager
* Recognize the range of outcomes for a given range of a variable input using a one-way data table
* Determine the range of outcomes under two variables using a two-way data table
* Simulate multiple outcomes for a given objective using Excel

**Week 3: Data Visualization**

* Recall the importance of data visualization
* Identify the key principles of design for building a chart, table and graph
* Differentiate between effective and ineffective charts, tables and graphs
* Identify five types of charts in Excel
* Determine the appropriate chart to use to display the data with a data set
* Create the following types of charts in Excel: Bar or column chart, combination line and bar chart, Gantt chart, heatmap and 100% stacked chart

**Week 4: Dashboarding**

* Define the term dashboarding
* Recall examples of how dashboards are used in a business environment
* Identify the benefits of using a dashboard
* Differentiate between the three types of dashboards (Executive, Analytical, and Operational)
* Recall the five principles of design for creating a dashboard
* Create interactive dashboard components in Excel, including Form Controls, Group Boxes, Slicers and PowerPivot using Form Controls and Group Boxes
* Build an interactive Key Performance Indicator, or KPI, using Excel’s Form Controls, Conditional Formatting, and IF formulas
* Demonstrate using the camera tool
* Hide elements of Excel’s user display to present the user with a clean dashboard