



# Microsoft® Power BI Advanced

## Course Description:

This course is for students with a sound working knowledge of Microsoft Power BI, creating common visualizations. This course takes that knowledge to the next level and explores the importance of good data modeling practices as well as supplementing data with custom calculations.

The course also explores the importance, creation, and implementation of calendar tables in a data model.

Students will also be introduced to the tools necessary to create dynamic, interactive reports that go beyond the basic interactivity learned in the previous course.

**Duration:** Instructor-led, group-paced, classroom-delivery learning model with structured hands-on activities – 7 hours (1 day)

**Course Objectives:** Build on the knowledge attained in the prior course and achieve proficiencies when creating data models and calculations.

## Upon successful completion of this course, students will:

- Understand the purpose of Data Models and their advantages over flat file structures.
- Understand the purpose and importance of Calendar Tables in a Data Model.
- Create functions in Power Query and Power BI to create Data Model content as well as answer common business questions about the data.
- Create custom visualizations and interactive dashboards

**Prerequisite:** “Microsoft Power BI” course (*or equivalent knowledge*) is a prerequisite for this course. Students must have a firm grasp of using Power Query to connect to data sources and using Power BI to create visualizations/charts.

## Course Outline

### Introduction to DAX (Data Analysis Expressions)

- What is DAX?
- Calculated Columns in Power Query
- Calculated Columns in Power BI
- Introduction to Measures
- Aggregation Functions

### Data Model – Calendar Tables

- The Importance of Calendar Tables
- Creating Automatic Calendar Tables
- Manual Calendar Tables (*Power Query & Power BI*)

### Aggregation Functions

- SumX, AverageX, CountX, MaxX, MinX
- Sum, Average, Count, Max, Min, DistinctCount

### Data Relation Functions

- Calculate, Related, RelatedTable, Filter, All, AllSelected, CalculateTable,

### Time Intelligence Functions

- SamePeriodLastYear, PreviousMonth, PreviousYear, TotalMTD, TotalYTD, EndOfMonth, EndOfYear

### Custom Visualizations

- Utilizing Bookmarks
- Creating and Using Action Buttons
- Custom Tooltips