



Power BI® Boot Camp

Course Description

Course Overview: Set up your data model; extract, transform and load your data with Power Query; create measures using DAX in Power Pivot and Power BI Desktop (PBID); and present and visualize your data with Power BI, Power BI Desktop, and 3D Maps.

Sanitize your data, **Analyze** your data, and **Visualize** your data! Although you may feel like a Power Nap after 4 days in class, it will be worth it!

Target Student: This course is for students who want to join the Business Intelligence revolution! Students who take this course want to learn how to use Power BI (Microsoft's powerful new analytical toolset) to make timely and strategic business decisions.

If you already know Excel, you need to take the 4-Day Power BI Boot Camp if you:

- Need to integrate data from more than one source or data type
- Consolidate your data using the =VLOOKUP() function
- Need more sophisticated and flexible reports than traditional Pivot Tables
- Create calculated fields in Pivot Tables to further analyze your summary data
- Re-create the same Pivot Tables to report updates to the data

If you don't know Excel, but will be supporting Power BI, you need to take the 4-Day Power BI Boot Camp if you are:

- A business leader who needs to mine data for actionable insight – using existing resources and on short deadlines
- An IT or database professional looking to increase professional agility and dramatically expand capabilities
- Part of an organization looking to leverage Microsoft's groundbreaking Power BI offerings

Prerequisites: To ensure your success, we recommend you first take the following CompuTrain courses or have equivalent knowledge: Microsoft® Excel®: Introduction, and Microsoft® Excel®: Intermediate. Alternately, relational database experience and/or training would be helpful.

Course Objectives

Upon successful completion of this course, students will be able to:

- Navigate the Power BI Interface
- Import Data
- Extract, Transform and Load Data Using Power Query
- Create Data Models
- Create Reports Using Power Pivot Data
- Use DAX Functions (at least 50) to Create Measures and KPIs
- Analyze Data with Pivot Tables and Pivot Charts
- Create Tables, Matrices and Charts in Power BI Desktop
- Create Interactive Dashboards in Power BI Desktop
- Perform Geospatial Analysis Using 3D Map

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Day 1 (Power BI Data Modeling)

Lesson 1: Power BI Solution Overview

- What is Power BI?
- What is Power BI Desktop?
- Understanding “The Big Picture”

Lesson 2: Introducing the Data Model

- What is a Data Model?
- Where Should I Build my Data Model?
- Exploring the Data Model Manager Interface

Lesson 3: Introducing Power Pivot

- Why Use Power Pivot?
- Enabling Power Pivot for Excel
- Exploring the Data Model Manager Interface

Lesson 4: Importing Data into Power Pivot

- Importing Data from Relational Databases
- Importing Data from Text Files
- Importing Data from a Data Feed
- Reusing Existing Connections to Update the Model

Lesson 5: Creating the Data Model

- Creating Table Relations
- Creating a Star Schema
- Creating Linked Tables
- Creating Hierarchies
- Making a User-Friendly Model

Lesson 6: Analyzing Data with Power Pivot Tables and Charts

- Pivot Table Fundamentals
- Slicing the Data
- Adding Visualizations to a Pivot Table
- Working with Pivot Charts
- Using Multiple Charts and Tables

Day 2 (Power Query aka “M”)

Lesson 1: Introducing Power Query

- Why Use Power Query/Get and Transform Data?
- Importing CSV files
- Exploring the Data Model Manager Interface

Lesson 2: Understanding Data Types

- Overriding Power Query Defaults
- Data Types

Lesson 3: Combining Files

- Basic Append
- Importing all Files in a Folder
- Filtering Files
- Preserving File Properties

Lesson 4: Unpivoting

- Unpivot Data
- Unpivot Other Columns

Lesson 5: Combining all worksheets in a workbook

- Starting from a blank query
- Reusing Existing Connections to Update the Model

Lesson 6: Nondelimited Text Files

- Trim and Clean Text
- Splitting Columns
- Combining Columns

Lesson 7: Importing from Databases

- Connect to SQL database
- Selecting Data
- Combining Columns

Lesson 8: Importing Web Data

- Importing Tables from the Internet
- Importing Raw Data
- Importing Text Files



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Day 3 (DAX)

Lesson 1: Introduction to DAX

- What is DAX?
- Calculated Columns vs Measures
- Understanding the Syntax of DAX
- Understanding Implicit vs Explicit Measures

Lesson 2: Understanding Date Tables

- Creating a Date Table
- Creating a Date Hierarchy
- Using Single Date Functions

Lesson 3: Creating Measures with DAX

- Working with Text Functions
- Using Statistical Functions
- Creating Logical Functions
- Tips for Creating Calculations in Power Pivot
- Creating KPIs

Lesson 4: Understanding Filter Propagation

- Understanding Filter Context
- Altering the Query Context
- Creating Advanced Filters

Lesson 5: Basic Iterator Functions

- Understanding Row Context
- When to use X-Functions vs Aggregators
- Using Iterator Functions

Lesson 6: Relationship Building Calculations

- Getting Data from Related Tables
- Using Inactive Relationships in Measures

Lesson 7: Incorporating Time Intelligence

- Using DAX Date and Time Functions
- Shifting the Date Context

Lesson 8: Relationship Building Calculations

- Getting Data from Related Tables
- Using Inactive Relationships in Measures

Day 4 (Visualizing Data)

Lesson 1: Creating Standard Visualizations with Power BI Desktop

- Creating Tables and Matrices
- Constructing Bar, Column, and Pie Charts
- Building Line and Scatter Charts
- Creating Map-Based Visualizations

Lesson 2: Creating Interactive Dashboards with Power BI Desktop

- Creating the Dashboard
- Linking Visualizations
- Using Tiles to Organize the Data
- Filtering Groups and Views

Lesson 3: Geospatial Analysis with 3D Map

- Preparing Data for Mapping
- Creating a Map-Based Graph
- Creating Heat and Region Maps
- Adding Multiple Layers to a Power Map
- Analyzing Changes Over Time