



# Power BI Online Training Course Syllabus

| Topic  | Content  | Week  |
|--|--|-------|
| <b>Power BI Complete Introduction</b>                              | Power BI Introduction  | week1 |
|  | Data Visualization, Reporting  |       |
|  | Business Intelligence (BI), Traditional BI, Self-Serviced BI(SSBI)                   |       |
|  | Cloud Based BI, On Premise BI  |       |
|  | Power BI Products  |       |
|  | Power BI Desktop (Power Query, Power Pivot, Power View)                              |       |
|  | Flow of Work in Power BI Desktop   |       |
|  | Power BI Report Server, Power BI Service, Power BI Mobile                            |       |
|  | Flow of Work in Power BI / Power BI Architecture                                     |       |
|  | A Brief History of Power BI  |       |
| <b>PBI Desktop Installation, PBI Desktop &amp;Service Overview</b> | Power BI Desktop Installation  |       |
|  | Building Blocks of Power BI  |       |
|  | Datasets, Visualizations, Reports, Dashboards, Tiles                                 |       |
|  | Power BI Desktop User Interface  |       |
|  | Fields Pane, Visualizations pane, Ribbon, Views, Pages Tab, Canvas                   |       |
|  | Overview of Power Query / Query Editor – Extract, Transform & Load Data              |       |
|  | Connecting to Data Sources, Establish connection to the Excel source                 |       |
|  | Importing Data into Power BI or Query Editor   |       |
|  | Transforming the Data using Power Query  |       |
|  | Model the Data using Power Pivot – Relationship View                                 |       |
|  | Creating New Measures and New Columns using DAX – Data View                          |       |
|  | Visualizing the Data using Power View and Power Maps – Report View                   |       |
|  | Saving and Publishing the Visuals or Reports   |       |
| <b>Power Query:</b>  |  |       |
| <b>Introduction to Power Query – Extract, Transform &amp; Load</b> | Data Transformation, Benefits of Data Transformation                                 | week2 |
|  | Shape or Transform Data using Power Query  |       |
|  | Overview of Power Query / Query Editor, Query Editor User Interface                  |       |
|  | The Ribbon (Home, Transform, Add Column, View Tabs)                                  |       |
|  | The Queries Pane, The Data View / Results Pane, The Query Settings Pane, Formula Bar |       |
|  | M language: Advanced Editor – Complete ETL Code                                      |       |

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|   | Saving Your Work – Applying ETL Changes – Loading into Power Pivot Model |       |
|   | Power Query Conceptually   |       |
| <b>Datatypes and Filters in Power Query</b>                 | Datatypes, Changing the Datatype of a Column                             |       |
|   | Filters in Power Query   |       |
|   | Auto Filter / Basic Filtering  |       |
|   | Filter a Column using Text Filters                                       |       |
|   | Filter a Column using Number Filters                                     |       |
|   | Filter a Column using Date Filters                                       |       |
|   | Filter Multiple Columns  |       |
| <b>Inbuilt Column Transformations</b>                       | Remove Columns / Remove Other Columns                                    |       |
|   | Name / Rename a Column   |       |
|   | Reorder Columns or Sort Columns  |       |
|   | Add Column / Custom Column   |       |
|   | Split Columns  |       |
|   | Merge Columns  |       |
|   | PIVOT, UNPIVOT Columns   |       |
| <b>In built Row Transformations</b>                         | Transpose Columns  | week3 |
|   | Header Row or Use First Row as Headers                                   |       |
|   | Keep Top Rows, Keep Bottom Rows  |       |
|   | Keep Range of Rows   |       |
|   | Keep Duplicates, Keep Errors   |       |
|   | Remove Top Rows, Remove Bottom Rows, Remove Alternative Rows             |       |
|   | Remove Duplicates, Remove Blank Rows, Remove Errors                      |       |
|   | Group Rows / Group By  |       |
| <b>Combine Queries (Append Queries &amp; Merge Queries)</b> |  |       |
| <b>Append Queries / Union Queries</b>                       | Append Queries   |       |
|   | Append Queries as New  |       |
|   | Append 2 or more files individually with different queries               |       |
|   | Appending multiple files of same type from a folder using single query   |       |
|   | Query Options  |       |
|   | Copy Query, Paste Query  |       |
|   | Delete Query, Rename Query   |       |
|   | Enable Load, Include in report Refresh                                   |       |
|   | Duplicate Query, Reference Query   |       |
|   | Move to Group, Move Up, Move Down  |       |
| <b>Merge Queries / Join Queries</b>                         | Merge Queries, Merge Queries as New                                      |       |
|   | Default Types of Joins / Join Kinds / Merge Type                         |       |
|   | Left Outer (all from first, matching from second)                        |       |
|   | Right Outer (all from second, matching from first)                       |       |

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|--|---|-------|
|  | Full Outer (all rows from both)   |       |
|  | Inner (only matching rows)  |       |
|  | Left Anti (rows only in first)  |       |
|  | Right Anti (rows only in second)  |       |
|  | Cartesian Join or Cross Join  |       |
| <b>Power Pivot</b>   |   |       |
| <b>Power BI Data Modeling – Relationship View</b>  | Data Modeling Introduction  | week4 |
|  | Relationship, Need of Relationship  |       |
|  | Relationship Types / Cardinality in General   |       |
|  | One-to-One, One-to-Many (or Many-to-One), Many-to-Many                              |       |
|  | AutoDetect the relationship, create a new relationship, Edit existing relationships |       |
|  | Make Relationship Active or Inactive  |       |
|  | Delete a relationship   |       |
|  | Cross filter direction (Single, Both), Assume Referential Integrity                 |       |
| <b>Enhancing the Data Model – DAX</b>  | What is DAX, Calculated Column, Measures  |       |
|  | DAX Table and Column Name Syntax  |       |
|  | Creating Calculated Columns, Creating Measures                                      |       |
|  | Implicit Vs Explicit Measures   |       |
|  | Calculated Columns Vs Measures  |       |
|  | DAX Syntax & Operators  |       |
|  | DAX Operators   |       |
|  | Types of Operators  |       |
| Arithmetic Operators, Comparison Operators, Text Concatenation Operator, Logical Operators |   |       |
| <b>DAX Functions Categories</b>  | Date and Time Functions   | week5 |
|  | Logical Functions   |       |
|  | Text Functions  |       |
|  | Math & Statistical Functions  |       |
|  | Filter Functions  |       |
|  | Time Intelligence Functions   |       |
| <b>DAX Date &amp; Time Functions</b>   | YEAR, MONTH, DAY  |       |
|  | WEEKDAY, WEEKNUM  |       |
|  | FORMAT (Text Function) à Month Name, Weekday Name                                   |       |
|  | DATE, TODAY, NOW  |       |
|  | HOUR, MINUTE, SECOND, TIME  |       |
|  | DATEDIFF, CALENDAR  |       |
|  | Creating Date Dimension Table   |       |
| <b>DAX Text Functions</b>  | LEN, CONCATENATE (&)  |       |
|  | LEFT, RIGHT, MID  |       |
|  | UPPER, LOWER  |       |

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|---|---|-----------|
|   | TRIM, SUBSTITUTE, BLANK   |           |
| <b>DAX Logical Functions</b>              | IF  | week6     |
|   | TRUE, FALSE   |           |
|   | NOT, OR, IN, AND  |           |
|   | IFERROR   |           |
|   | SWITCH  |           |
| <b>DAX Math and Statistical Functions</b> | INT   |           |
|   | ROUND, ROUNDUP, ROUNDDOWN   |           |
|   | DIVIDE  |           |
|   | EVEN, ODD   |           |
|   | POWER, SIGN   |           |
|   | SQRT, FACT  |           |
|   | SUM, SUMX   |           |
|   | MIN, MINX   |           |
|   | MAX, MAXX   |           |
|   | COUNT, COUNTX   |           |
|   | AVERAGE, AVERAGEX   |           |
|   | COUNTROWS, COUNTBLANK   |           |
|   | <b>DAX Filter Functions</b>   | CALCULATE |
| ALL                                       |   |           |
| RELATED                                   |   |           |
| <b>DAX Time Intelligence Functions</b>    | Time Intelligence Introduction  |           |
|   | TOTALMTD, TOTALQTD, TOTALYTD  |           |
|   | PREVIOUSDAY, PREVIOUSMONTH, PREVIOUSQUARTER, PREVIOUSYEAR                             |           |
|   | NEXTDAY, NEXTMONTH, NEXTQUARTER, NEXTYEAR   |           |
|   | SAMEPERIODLASTYEAR  |           |
|   | YOY Growth  |           |
|   | MOM Growth  |           |
| <b>Power View</b>                         |   |           |
| <b>Report View / Power View</b>           | Report View User Interface  | week7     |
|   | Fields Pane, Visualizations pane, Ribbon, Views, Pages Tab, Canvas                    |           |
|   | Visual Interactions   |           |
|   | Interaction Type (Filter, Highlight, None)  |           |
|   | Visual Interactions Default Behavior, Changing the Interaction                        |           |
| <b>Filters in Power View</b>              | Filter Types  |           |
|   | Visual Level Filters, Page Level Filters, Report Level Filters, Drill Through Filters |           |
|   | Filter Sub Types  |           |
|   | Basic Filtering, Advanced Filtering, Top N, Relative Date Filtering                   |           |
|   | Numeric field filters, Text field filters, Date and Time field Filters                |           |
| <b>Grouping, Binning &amp; Sorting</b>    | Grouping and Binning Introduction   |           |

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|   | Using grouping, Creating Groups on Text Columns                                  |       |
|   | Using binning, Creating Bins on Number Column and Date Columns                   |       |
|   | Sorting Data in Visuals  |       |
|   | Changing the Sort Column, Changing the Sort Order                                |       |
|   | Sort using column that is not used in the Visualization                          |       |
|   | Sort using the Sort by Column button   |       |
| <b>Hierarchies and Drill-Down Reports</b> | Hierarchy Introduction, Default Date Hierarchy                                   | week8 |
|   | Creating Hierarchy, Creating Custom Date Hierarchy                               |       |
|   | Change Hierarchy Levels  |       |
|   | Drill-Up and Drill-Down Reports  |       |
|   | Data Actions, Drill Down, Drill Up, Show Next Level, Expand Next Level           |       |
|   | Drilling filters other visuals option  |       |
| <b>Power BI Visualizations</b>            | Visualizing Data, Why Visualizations   |       |
|   | Visualization types, Field Wells   |       |
|   | Visuals for Filtering, Visualizing Categorical Data, Visualizing Trend Data      |       |
|   | Visualizing KPI Data, Visualizing Tabular Data, Visualizing Geographical Data    |       |
|   | Leveraging Power BI Custom Visuals   |       |
| <b>Visuals for Filtering</b>              | Slicer Visualization   |       |
|   | When to use a Slicer   |       |
|   | Create and format Slicer Visualization   |       |
|   | Hierarchy Slicer (Custom Visualization)  |       |
|   | When to use a Hierarchy Slicer   |       |
|   | Create and format Hierarchy Slicer   |       |
|   | Advantages of Hierarchy Slicer   |       |
| <b>Visualizing Categorical Data</b>       | Create and Format Bar and Column Charts  | week9 |
|   | Create and Format Stacked Bar Chart Stacked Column Chart                         |       |
|   | Create and Format Clustered Bar Chart, Clustered Column Chart                    |       |
|   | Create and Format 100% Stacked Bar Chart, 100% Stacked Column Chart              |       |
|   | Create and Format Pie and Donut Charts   |       |
|   | Create and Format theTree Map Visual   |       |
|   | Create and Format Scatter Charts   |       |
| <b>Visualizing Trend Data</b>             | Line and Area Charts   |       |
|   | Create and Format Line Chart, Area Chart, Stacked Area Chart                     |       |
|   | Combo Charts   |       |
|   | Create and Format Line and Stacked Column Chart, Line and Clustered Column Chart |       |
|   | Create and Format Ribbon Chart, Waterfall Chart, Funnel Chart                    |       |
| <b>Visualizing KPI Data</b>               | Create and Format Gauge Visual, KPI Visual                                       |       |

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|  | Create and Format Card Visualization, Multi Row Card                                   |        |
| <b>Visualizing Tabular Data, Geographical Data</b> | Create and Format Table Visual, Matrix Visualization                                   |        |
|  | Create and Format Map Visual, Filled Map Visual, Arc GIS Maps Visual                   |        |
| <b>Power BI Service</b>                            | Power BI Service Introduction, Power BI Cloud Architecture                             | week10 |
|  | Creating Power BI Service Account, SIGN IN to Power BI Service Account                 |        |
|  | Publishing Reports to the Power BI service, Import / Getting the Report to PBI Service |        |
|  | My Workspace / App Workspaces Tabs   |        |
|  | DATASETS, WORKBOOKS, REPORTS, DASHBOARDS   |        |
|  | Working with Datasets, Creating Reports in Cloud using Published Datasets              |        |
|  | Working with Workbooks, working with Reports, Sharing Reports                          |        |
|  | Creating Dashboards  |        |
| <b>Dashboards Development</b>                      | Pin Visuals and Pin LIVE Report Pages to Dashboard                                     |        |
|  | Advantages of Dashboards   |        |
|  | Interacting with Dashboards  |        |
|  | Adding Tiles to Dashboards   |        |
|  | Web Content, Image, Text Box, Video  |        |
|  | Formatting Dashboard   |        |
|  | Sharing Dashboard  |        |
| <b>Data Gateways</b>                               | Introduction to Data Gateways  | week11 |
|  | How Data Gateways work   |        |
| <b>Row Level Security in Power BI</b>              | Introduction to Row Level Security   |        |
|  | Row Level Security (RLS) with DAX  |        |
|  | Manage Roles, Creating Roles, Testing Roles  |        |
|  | Adding Members to Roles in Power BI Service  |        |
|  | Dynamic Row Level Security   |        |
|  | Creating Users Table and Adding to the Model   |        |
|  | Capturing users using UserName () or UserPrincipalName () DAX Functions                |        |
| <b>Interview Questions Discussions</b>             |  | Week12 |