

# Power BI - Intermediate

## Detailed Content

### Power BI

A history of Business Intelligence  
The development of Self Service Business Intelligence  
Introducing Power BI  
How does Power BI fit in?  
Introducing the three main tools – Power BI Service, Power BI desktop & Power BI Mobile  
When to use Power BI Desktop Free versus Pro  
Signing up to the Power BI online service  
Which sources of Data can I use in Power BI Desktop?  
Content Samples

### The BI Process

The Business Intelligence process  
How Power BI relates to the standard BI processes.

### Data Model & Transformation

The Power Query process  
Data transformation principles  
Manual data clean-up example  
A demonstration of how Power Query helps with efficient use of data query  
Dimension and Fact Tables  
Data Model considerations  
Common Data Models

### Power Query UI

Queries Area  
Data section  
The Transformations Ribbons  
Query Settings Area  
M Language Area

### Data Source

Introduction to the data source used in this course  
Creating Tables of Data  
Import data from Excel  
Import data from Web  
Renaming Queries  
Grouping Queries

### Column Transformations

Adding Custom Columns  
Renaming Query Steps  
Changing Text Data Column Case  
Duplicating Columns  
Renaming Columns  
Splitting Columns  
Creating Conditional Columns  
Creating Index columns  
Reordering Columns  
Using the Navigate to Column tool  
Creating Date columns from Date/Time Columns

### Data Transformations

Removing rows from Tables  
Using first row as headers  
Filtering data  
Detect and change data type  
Filling Null areas with values  
Trimming text  
Replacing values

### Date Transformations

Disabling Auto Date/Time  
Extracting year  
Extracting quarter  
Extracting month  
Extracting date  
Filter dates

### Unpivot data

Unpivot columns

### Append and Merge Queries

Append Queries  
Merge Queries  
Merge Query Types  
Cleaning the resulting query

### Load data

Including and Excluding Queries in report refresh  
Enabling or disabling Query loading  
Applying Queries  
Viewing Query dependencies

### Data Modelling

Introduction to data modelling  
Relationship view  
Auto detecting relationships  
Cardinality and Cross Filtering  
Creating relationships through Manage relationships  
Changing Cross Filtering  
Deleting relationships  
Drag and drop to create relationships

### DAX

An introduction to DAX  
Comparing M Language to DAX  
Comparing Measures to Calculated Columns  
Referring to and Using Measures and Calculated Columns  
Creating a simple SUM measure  
Creating a Calculated column using the IF function  
Simple DAX functions  
The X Functions as iterators  
Comparing SUM to SUMX  
A use for AVERAGEX

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## Quick Measures

Introduction to Quick Measures  
Quick Measure Categories  
Aggregate per Category  
Filters  
Fine tuning the Quick Measure  
Totals  
Arithmetic  
Text

## Time Intelligence Functions

Visuals for Date / Time Reporting  
Create a column for abbreviated month  
Mark as Date Table  
Quick Measure for Year to Date  
Quick Measure for YTD with different year end  
Quick Measure on an existing measure using YTD

## Advanced Visualisations

Introduction to Waterfall charts  
Create variance measures  
Using variance measures in a Waterfall chart  
Create drill down time series chart  
Drill down chart interaction  
Create drill down bar chart  
Creating What if Parameters  
Using What if parameters in a chart  
Enabling Q & A in Power BI Desktop  
Create a visual with Q & A  
Using Bookmarks in Power BI Desktop  
Bookmarks to filter data  
Bookmarks to change visuals  
Add buttons to access bookmarks

## Power BI Templates & Parameters

Introduction to parameters in templates  
Enabling parameters in queries and transformations  
Creating a template file based on existing query and report  
Add a transformation parameter to the template

## Connect Excel and Power BI Desktop

Introduction to Power BI and Excel  
Ability to work with Desktop and Excel  
Analyse a Power BI Desktop data model in Excel  
Create a Power Pivot data model in Excel  
Add a KPI based measure to the data model  
Import the Excel data model to Desktop including the KPI

## Extended Topic A - Transformations

Opening files and checking connections  
Examine the underlying data  
Find and Replace  
Unpivot & Rename

## Extended Topic B - Query Parameters (Dynamic Web Query)

Importing a web query using parameters  
Creating a custom function  
Defining a List to create a new Query  
Invoking custom functions  
Using Error checking processes  
Cleaning queries  
Create measures and visualise queried data

## Extended Topic C - Group By

Using the Group By feature

## Data Normalisation Appendix

The Normal Forms  
1<sup>st</sup> Normal Form