

# COURSE OUTLINE

<b>Program Name:</b>	Power Query for Excel and Power BI			
<b>Level:</b>	Beginner to Intermediate			
<b>Duration:</b>	6.5 effective hrs			
<b>Learning Material:</b>	Datasets based case studies, PDF and YouTube videos from our channel for revision			
<b>Delivery Style:</b>	Hands-on practice (Demo -> Practice side-by-side)			
	First, show a demo with the problem statement and solution.			
	Then, slow down the pace to let people practice alongwith the Instructor.			
<b>Software App:</b>	MS Excel with Power Query (Data tab -> Transform section on the left)			
	Power BI Desktop can also be used for practicing the case studies.			
<b>Who is this program for?</b>				
<p>This program is for - Intermediate to Advanced Excel users or Beginner users of Power BI - esp. those who wish to automate their reporting and consolidation in Excel OR Power BI, respectively.</p> <p>Power Query tool will allow you access &amp; analyse data files beyond Excel's 1mn rows limit. It's used for ETL automation. This program focusses on the most essential concepts of PQ. The program does not cover coding (M-Query).</p>				
<b>Objectives:</b>				
<p>This program aims to help users get comfortable in the day-to-day working in Power Query. Essential concepts - Create queries with repeatable steps, Merge Queries, Append Queries, Fuzzy Match, Unpivot, Split to rows, etc.</p>				
<b>Pre-Training Work:</b>				
10-to-20 mins video from our YouTube channel or eLearning portal				
<i>D = Demo, and P = Practice</i>				
<i>* means - discussion based on time availability &amp; audience understanding</i>				
<b>Course Outline</b>				
<b>A</b>	<b>Introduction</b>	<b>Activity</b>	<b>Mins</b>	
	<b>WHY Excel or Power BI users need Power Query?</b>	D	10	
1	Data Preparation (ETL) & Automation			
2	Analyze LARGE data quickly using PQ (Excel or PowerBI)			
<b>B</b>	<b>Introduction to the UI of - Power Query Editor in Excel &amp; Power BI</b>	<b>Activity</b>	<b>Mins</b>	
	<b>Accessing Power Query Editor in Excel / Power BI and overview of UI:</b>	P	20	
1	Accessing PQ in Power BI - Transform Data			
2	Accessing PQ in Excel - Data tab - Transform			
3	- Queries & Connections			
4	- Right Click features - Edit, Load to, Refresh			
5	- Load to... [Pivot Table, Connections only, Table]			

	<b>How to navigate Power Query Editor panels and features:</b>	P	10	
1	View - Formula Bar (M-Query)			
2	Using Applied Steps - to Undo			
3	Duplicate Queries			
4	Important Considerations: Data type, Case sensitive nature			
	<b>C Using Power Query Editor - for Data Preparation - Part 1</b>	<b>Activity</b>	<b>Mins</b>	
1	Importing data from standalone Excel and CSV files	P	5	
	<b>Single case study with 10+ essential data transformation features:</b>	P	100	
2	Remove Rows - Duplicate, Blank			
3	Remove Columns - Remove other columns			
4	Promote Headers			
5	UnPivot Column(s) - Convert cross-tab data set into flat file			
6	Add Column - Column from examples (~FlashFill)			
7	Add Column - Custom (Google - power query custom formula to ___)			
8	Add Column - Conditional (~Nested IFs)			
9	Aggregation - Group By (Basic & Advanced)			
10	Quick Checks - Count Rows			
11	Importance of data types (decimal, whole no., text, etc.)			
12	Refresh Query			
13	General guidelines on how to debug errors			
	<b>D Using Power Query Editor - for Data Preparation - Part 2</b>	<b>Activity</b>	<b>Mins</b>	
1	Combine Queries = Append Queries vs. Merge Queries	D	10	
2	Importing data from a Folder with multiple Excel files	P	20	
3	Append Queries - Consolidate yearly sales files (e.g. 2016,2017,2018...) from a Folder			
4	Note: Column Names AND CASE have to be same.			
5	Links to videos for advanced cases of Append Queries	D	10	
	<b>Merge Queries - advantages over VLOOKUP:</b>	P	45	
6	Expand the table to give multiple output-columns in the same step			
7	Can work on >1 mn rows - Speed & Volume			
8	Can do reverse lookup			
9	Can give >1 output column unlike VLOOKUP			
10	Can do concatenated VLOOKUP			
11	JOIN Types - Left Outer, Inner, etc.			

	<b>Common issues with Merge Queries:</b>	D	40	
12	PQ is case sensitive - Sol 1 = Case Change (and Trim)			
13	PQ is case sensitive - Sol 2 = Fuzzy Merge with threshold as 1 and Ignore Case option			
14	PQ generates extra rows if primary keys have duplicates (Cartesian Product)			
15	Need for Unpivot Column for doing 'Concatenated Lookup'			
16	Fuzzy Merge for spelling mismatches – Rajeev Pvt Ltd vs. Rajiv (I) Pvt. Ltd.	D	15	
<b>E</b>	<b>Other notable features</b>	<b>Activity</b>	<b>Mins</b>	
	<b>Settings:</b>			
1	Checking Data Quality using - Column Distribution, Column Profile, Column Quality	D	5	
2	Duplicate Queries (independent) vs Reference Queries (dependent)	P	5	
3	Enable Load	P	5	
	<b>Data Transformation:</b>			
4	Format - Trim, Clean, Case Change	P	3	
5	Merge Columns (~Concatenate)	P	5	
6	Extract, Replace Values	P	5	
7	Split Column (incl. Split to Rows)	P	15	
8	Fill Down	P	5	
9	Pivot - Don't Aggregate feature	P	15	
10	Transpose	P	10	
11	<b>Paramterization of Data Source</b>	P*	20	
<b>-End of document -</b>				