Course Introduction
Overview of Power BI

Data Model
Data Modelling in the Real World
Dataset for these exercises

Data Analysis Expressions (DAX) – Introduction
Introduction to DAX
Learning DAX
Advice when creating DAX
Third party tools to assist
Measures Table
Create a Table for Measures

DAX – Measures and Filters
Filters on a Measure
Create simple aggregate measures
Using measures on a report page
Applying visual layouts and slicers / filters
Initial Filter Context / Original Filter Context / Query Context

DAX – The CALCULATE function
Introduction to the CALCULATE function
Modifying filters with CALCULATE
Add, replace, clear column filters
Limitation of CALCULATE
Adding Filters
Replacing Filters
The total row
Removing / Clearing Filters
The ALL and similar functions

DAX – The FILTER function
Introduction to the FILTER function
FILTER returning a table
Create a table with FILTER
Modify existing filter context with both FILTER and CALCULATE
Difference between these methods
Using ALL function in FILTER
Identical CALCULATE and FILTER
Extended exercise – ALL functions

DAX – The Rules of Evaluation
Introduction to the rules of evaluation
The five steps
Starting set of filters
Specify filtering
Filters are applied
Propagation of filters
Evaluation of expression
Stepping through the rules in an example

DAX – Contexts & Relationships
Introduction to Relationships
Filter context follows relationships
Explore the filter context
How filter context follows relationships
Filter context against relationships
The Both cross-filter direction
Modify the filter direction
The CROSSFILTER function
Impact on totals

DAX – Evaluation Contexts
Overview of evaluation contexts in DAX
The Filter Context
The Row Context
Initial Filter (Query) context
Initial Row context
Seeing Row context
Introducing a row context

RLS data access according to organisation hierarchy
DAX parent-child functions
Publish and assign roles in Power BI Service
Create App Workspace

Report Features
Introduction to advanced features
Overview of Drill-through
Create report page with drill-through filters
Interacting with drill-through
Overview of custom report tooltips
Modify standard tooltip display
Create a custom tooltip
Apply the tooltip to a field
Apply the tooltip to a visual
Overview of Grouping and Binning
Create a group
Create a bin
Binning a date field

Date Dimension
Overview of Date Dimension in BI
Power BI Desktop settings
Download or Create own table
Data Table with a DateKey
Convert a DateKey to a Date
Create date table in Power Query
Extended exercise - Use parameter to specify date table start and end
Create date table with DAX
Using CALENDARAUTO in DAX

Extended Topic A – API Data Sources
Overview of Web and API data sources
Query an API data source
HTTP and JSON terminology
Transform a JSON response
Publish to Power BI Service and setup refresh schedule

Extended Topic B – Streaming Data Sources
Overview of real time streaming data sources
Push Datasets and Streaming  
Datasets  
Pushing data into a dataset  
Query data from PubNub stream  
Configure Dashboard tile to show streaming data from PubNub  
Create a REST API to push data into Power BI  
Create JSON object to insert data via this API  
Push data to created API using HTTP Post  
Create Dashboard tile to show updating data

Extended Topic C – Files in Folders  
Overview of using a folder data source  
Query a folder containing multiple source files  
Column consistency  
Specify a template file to define columns  
View created queries / functions and dependencies  
Understand the created process of querying the folder  
Extended exercise – introduce additional files and unwanted files

Additional Study (Extended Topic D) – Power Query M Formula Language  
Overview of Power Query M Formula Language  
Basics of Power Query M Values, Records, Lists  
Operators  
Conditional Testing  
Error handling  
Accessing table data  
More advanced Power Query M Each Expression  
Refer to other queries  
Understand a web query  
Remove Rows by Filter