
Power BI – 35 Academic Hours

Course Overview:

The Power BI – Self-Service BI & Data Modeling course equips participants with end-to-end BI capabilities, from connecting to data sources and transforming data, through professional data modeling and KPI development, to designing interactive reports and dashboards and deploying them in the Power BI cloud service. Participants gain hands-on experience with Power BI Query Editor for ETL and automation, best-practice data modeling methodologies (Star/Snowflake Schema), DAX for building measures, and advanced report design and sharing in Power BI Service. The course is highly practical and focuses on real-world business scenarios.

What Participants Gain?

Graduates complete the program with end-to-end data science capabilities from data acquisition and EDA to building machine learning and deep learning models and the ability to develop advanced GenAI applications using LLMs, RAG, and agentic workflows. They graduate with a rich GitHub portfolio including real-world projects and a final capstone project, positioning them strongly for industry roles in Data Science and AI engineering.

Target Audience

- Data analysts
- BI professionals and BI implementers
- Finance, marketing, and operations professionals working with reports and KPIs
- Managers seeking data-driven insights
- Professionals building Self-Service BI solutions
- Junior data practitioners

Prerequisites

- Basic experience working with tabular data (Excel or similar tools)
- Basic understanding of data concepts, metrics, and KPIs
- SQL experience (an advantage, not mandatory)
- General familiarity with BI concepts (an advantage)

Course Syllabus

Introduction

- Self-Service BI
- Tool architecture and structure
- Development workflow and overall flow

Data Import & Transformation with Power BI Query Editor

- Introduction to Power BI Query Editor
- Extract – importing data from multiple sources:
 - Files (Excel, text)
 - SQL databases
 - Folders
- Transform – data transformation and process automation
- Creating a Date Dimension (enabling slicing by day of week, month, quarter, year)
- Developing data transformation automation:
 - Joining tables
 - Creating calculated columns
 - Filtering data
 - Splitting and merging columns
 - Data cleansing
- Introduction to the M language

Data Modelling

- Data modelling rules and best practices
- Data modelling methodologies
- Introduction to Star Schema and Snowflake Schema
- Defining relationships between tables

Measures

- Overview and definition of measures and KPIs
- Introduction to DAX and the impact of the data model on measure design
- Developing measures using DAX
- Time intelligence measures for period-over-period comparison and cumulative calculations

Reports

- Report design and development
- Best practices and tips for report design
- Using filters and different visualizations
- Adding visuals and colour palettes from the Microsoft marketplace
- Using bookmarks, tooltips, and drillthrough
- Using buttons

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- Mobile-optimized report design

Power BI Service (Cloud Environment)

- Introduction to the Power BI cloud service
- Publishing the model from Power BI Desktop to the cloud service
- Installing and configuring the Gateway
- Creating dashboards
- Sharing reports and dashboards
- Managing permissions and workspaces
- Configuring scheduled refresh and data source settings via the Gateway