

POWER BI WORKSHOP SYLLABUS (18 HOURS)

Workshop Overview

This 18-hour Power BI workshop is designed to provide participants with industry-relevant Business Intelligence skills. The program focuses on hands-on learning, real-world datasets, and practical dashboard development to make participants job-ready.

Target Audience: Students, working professionals, entrepreneurs

Prerequisites: Basic understanding of Excel and data concepts (recommended, not mandatory)

Module 1: Introduction to Business Intelligence & Power BI (2 Hours)

- Introduction to Business Intelligence (BI)
- Importance of data-driven decision making
- Overview of Power BI ecosystem:
 - Power BI Desktop
 - Power BI Service
 - Power BI Mobile
- Industry use cases (Sales, Finance, HR, Operations)
- Installation and interface overview of Power BI Desktop
- Understanding data, information, and insights

Learning Outcome: Understand the role of Power BI in modern businesses.

Module 2: Data Sources & Data Import (2 Hours)

- Types of data sources supported by Power BI
- Connecting to Excel and CSV files
- Connecting to SQL databases (introduction)
- Web and online data sources (overview)
- Import mode vs DirectQuery
- Data refresh concepts
- Hands-on practice with multiple datasets

Learning Outcome: Ability to import and manage data from different sources.

Module 3: Data Cleaning & Transformation using Power Query (3 Hours)

- Introduction to Power Query Editor
- Data cleaning techniques:
 - Removing duplicates
 - Handling missing values
 - Renaming and reordering columns
 - Changing data types
- Data transformation basics
- Merging and appending queries
- Creating custom columns
- Best practices for clean data preparation

Learning Outcome: Prepare raw data for accurate analysis.

Module 4: Data Modeling & Relationships (2 Hours)

- Understanding data models
- Fact tables and dimension tables
- Star schema concept
- Creating and managing relationships
- Cardinality and cross-filter direction
- Model optimization best practices
- Hands-on data modeling exercise

Learning Outcome: Build efficient and scalable data models.

Module 5: DAX Fundamentals (3 Hours)

- Introduction to DAX (Data Analysis Expressions)
- Calculated columns vs measures
- Basic DAX functions:
 - SUM, AVERAGE, COUNT
 - IF, SWITCH
- CALCULATE and FILTER functions
- Time intelligence concepts:
 - Year-to-Date (YTD)

- Month-to-Date (MTD)
- Year-over-Year (YoY)
- Creating business KPIs using DAX

Learning Outcome: Create dynamic calculations and business metrics.

Module 6: Data Visualization & Dashboard Design (3 Hours)

- Overview of Power BI visuals
- Choosing the right visual for data
- Creating charts, tables, and cards
- Using slicers and filters
- Drill-through and tooltips
- Conditional formatting
- Dashboard layout and design best practices
- Hands-on dashboard creation (Sales / Performance dashboard)

Learning Outcome: Design professional and insightful dashboards.

Module 7: Advanced Power BI Features (2 Hours)

- Power BI Service overview
- Publishing reports to Power BI Service
- Dashboards vs Reports
- Workspaces and sharing options
- Introduction to Row-Level Security (RLS)
- Scheduled data refresh
- Performance optimization techniques

Learning Outcome: Understand enterprise-level Power BI usage.

Module 8: Capstone Project & Career Guidance (1 Hour)

- End-to-end Power BI project:
 - Business problem understanding
 - Data preparation
 - Dashboard development

- Insight presentation
- Project presentation by participants
- Power BI career paths and roles
- Resume and interview guidance
- Certification roadmap (PL-300 overview)

Learning Outcome: Apply Power BI skills to real-world business scenarios.

Tools & Software

- Power BI Desktop
 - Microsoft Excel
 - Sample business datasets
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Final Deliverables

- 2–3 interactive Power BI dashboards
- One capstone project report
- Industry-aligned Power BI skill set
- Hands-on learning and practical