# Advanced AI With Power BI for Data Analysis & Reporting

**Unit 1: Power BI Fundamentals (Day 1 - Day 3)**  
**Day 1:** Introduction & Interface

* Power BI Desktop vs Service
* Ribbon, Fields Pane, Visualizations Pane
* Real-life task: Connect to a sample sales dataset

**Day 2:** Data Loading & Basics

* Import from Excel, CSV, SQL
* Understanding tables & relationships
* Real-life task: Load sales and product datasets

**Day 3:** Power BI Workspace Essentials

* Reports, Dashboards, Workspaces
* Bookmarks & navigation
* Real-life task: Create a simple sales report

**Unit 2: Data Transformation & Cleaning (Day 4 - Day 7)**  
**Day 4:** Power Query Basics

* Query Editor, Remove Columns, Rename
* Filter, Sort, Remove Duplicates
* Real-life task: Clean raw employee dataset

**Day 5:** Data Type & Format

* Change data types, handle nulls
* Split, merge columns
* Real-life task: Format customer data

**Day 6:** Advanced Data Transformation

* Pivot, Unpivot, Append Queries
* Merge tables, Join types
* Real-life task: Combine monthly sales sheets

**Day 7:** Calculated Columns vs Measures

* DAX basics: SUM, AVERAGE, COUNT
* Real-life task: Calculate total sales per product

**Unit 3: DAX for Analysis (Day 8 - Day 12)**  
**Day 8:** Logical DAX Functions

* IF, SWITCH, AND, OR
* Real-life task: Categorize customers by revenue

**Day 9:** Time Intelligence

* DATEADD, DATESYTD, SAMEPERIODLASTYEAR
* Real-life task: Year-over-year sales analysis

**Day 10:** Aggregation & Filtering

* CALCULATE, FILTER, ALL
* Real-life task: Top 5 products by revenue

**Day 11:** Advanced DAX

* RANKX, DISTINCTCOUNT, CONCATENATEX
* Real-life task: Employee performance ranking

**Day 12:** Error Handling & Debugging

* ISBLANK, IFERROR equivalent in DAX
* Real-life task: Fix missing data in report

**Unit 4: Data Visualization (Day 13 - Day 18)**  
**Day 13:** Basic Visuals

* Bar, Column, Line, Pie charts
* Real-life task: Monthly sales chart

**Day 14:** Tables & Matrices

* Matrix formatting, conditional formatting
* Real-life task: Product-wise sales summary

**Day 15:** Cards & KPIs

* Single number display, KPI metrics
* Real-life task: Dashboard key metrics

**Day 16:** Interactive Filters

* Slicers, Timelines, Drill-through
* Real-life task: Filter sales by region

**Day 17:** Custom Visuals

* Marketplace visuals, Maps
* Real-life task: Customer distribution map

**Day 18:** Advanced Visualization Techniques

* Combo charts, Tooltips, Bookmarks
* Real-life task: Interactive profit vs sales dashboard

**Unit 5: Data Modeling & Schema (Day 19 - Day 22)**  
**Day 19:** Relationships & Star Schema

* One-to-many, Many-to-many relationships
* Star schema concept: Fact tables (Sales), Dimension tables (Products, Customers, Dates)
* Real-life task: Connect Sales, Products, and Customers datasets in a star schema

**Day 20:** Hierarchies & Grouping

* Date hierarchies, Category hierarchies
* Drill-down & roll-up functionality
* Real-life task: Create category and region hierarchies for drill-down analysis

**Day 21:** Role Playing & Security

* Row-level security, Roles setup
* Real-life task: Restrict employee access by department

**Day 22:** Optimization Techniques

* Reduce dataset size, Performance Analyzer
* Real-life task: Optimize a slow report

**Unit 6: Power BI Service & Reporting (Day 23 - Day 26)**  
**Day 23:** Publishing Reports

* Publish to Power BI Service
* Real-life task: Share sales report

**Day 24:** Dashboards & Tiles

* Pin visuals, Create dashboards
* Real-life task: Pin KPIs to executive dashboard

**Day 25:** Scheduled Refresh

* Setup data refresh schedules
* Real-life task: Daily updated sales dashboard

**Day 26:** Collaboration & Comments

* Workspaces, Apps, Sharing options
* Real-life task: Team collaboration report

**Unit 7: Advanced Features & AI Integration (Day 27 - Day 30)**  
**Day 27:** Power BI Copilot / AI Features

* Enable and access Power BI Copilot
* Generate insights, automatic analysis, smart narratives
* Real-life task: Analyze customer churn dataset using Copilot

**Day 28:** Power Automate & Alerts

* Automate notifications & workflows
* Real-life task: Notify sales team of low stock

**Day 29:** Templates & Custom Reports

* Reusable templates, report themes
* Real-life task: Create a standardized monthly report template

**Day 30:** Capstone Project

* Build a complete interactive dashboard using sales, product, and customer datasets
* Must include: Star schema, DAX calculations, KPIs, slicers, drill-through, visual storytelling, and AI insights using Copilot
* Submission-based evaluation