Power BI Course: Beginner to Advanced

Duration: about 10-12 weeks at 1-2 hours a day
Tools: Power BI Desktop (free, Windows) and a free Power BI Service account

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Level 1: Beginner (Weeks 1-2)

Module 1: Introduction

- What is BI, and what Power BI is used for
- Power BI Desktop vs. Service vs. Mobile
- Installing and exploring the interface (Report, Table, Model views)

Module 2: Getting Data

- Connecting to Excel, CSV, and web sources
- Import vs. DirectQuery (basic idea)
- Navigator and loading data

Module 3: Power Query Basics

- Removing columns and rows, changing data types
- Renaming, splitting, and merging columns
- Filtering, sorting, and handling nulls and duplicates

Module 4: First Visuals

- Bar, column, line, pie, and card visuals
- Tables and matrix
- Formatting basics, titles, colors, and themes

Mini Project 1: Sales dashboard from an Excel file

Level 2: Intermediate (Weeks 3-5)

Module 5: Data Modeling

- Fact vs. dimension tables
- Star schema

- Relationships: one-to-many, many-to-many, cross-filter direction
- Date table creation

Module 6: Advanced Power Query

- Append and merge queries
- Pivot and unpivot
- Conditional and custom columns
- Parameters and query folding (intro)

Module 7: Intro to DAX

- Calculated columns vs. measures
- Core functions: SUM, AVERAGE, COUNT, DISTINCTCOUNT
- IF, SWITCH, DIVIDE
- Text and date functions

Module 8: More Visuals and Interactivity

- Slicers, filters (visual, page, report level)
- Maps, treemap, scatter, gauge, KPI
- Drill-down and drill-through
- Bookmarks, buttons, and tooltips

Mini Project 2: HR or Finance dashboard with a proper data model and DAX measures

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Level 3: Advanced (Weeks 6-9)

Module 9: Advanced DAX

- CALCULATE, FILTER, ALL, ALLEXCEPT, VALUES
- Context: row context vs. filter context
- Time intelligence: TOTALYTD, SAMEPERIODLASTYEAR, DATEADD, YoY and MoM growth
- Iterators: SUMX, AVERAGEX, RANKX
- Variables (VAR / RETURN)

Module 10: Performance and Optimization

- Performance Analyzer
- Reducing model size and cardinality
- Aggregations
- DAX Studio basics

Module 11: Power BI Service

- Publishing reports and workspaces
- Dashboards vs. reports
- Scheduled refresh and gateways
- Sharing, apps, and permissions

Module 12: Security

- Row-Level Security (RLS) static and dynamic
- Sensitivity labels

Mini Project 3: Executive dashboard with time intelligence, RLS, and published to the Service

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Level 4: Expert (Weeks 10-12)

Module 13: Advanced Modeling and Architecture

- Dataflows and datamarts
- Incremental refresh
- Composite models
- Deployment pipelines

Module 14: Extending Power BI

- Custom visuals from AppSource
- Python and R visuals
- Power BI with Power Automate and Power Apps
- Paginated reports (Report Builder)

Module 15: AI and Modern Features

- Q&A, Key Influencers, Decomposition Tree
- Smart narratives and anomaly detection
- Copilot in Power BI
- Intro to Microsoft Fabric (Lakehouse, OneLake, Direct Lake)

Module 16: Design and Storytelling

- Layout, color theory, and accessibility
- Dashboard best practices
- Presenting insights to stakeholders

Capstone Project: End-to-end solution: multiple data sources, star schema, advanced DAX, RLS, scheduled refresh, and a polished published report

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Practice Datasets

- Microsoft Contoso and AdventureWorks sample data
- Kaggle (sales, HR, retail, e-commerce)
- Superstore sales dataset