



Power BI

A comprehensive journey through Power BI development, from basic DAX functions to advanced data modeling and enterprise deployment.

Learning Journey Overview

01

Foundation

Introduction and basic concepts

02

DAX Mastery

Essential functions and calculations

03

Data Modeling

Relationships and advanced techniques

04

Service & Security

Publishing and enterprise features

05

Real-World Application

Healthcare project implementation

Module 1: Foundation

Getting Started

Introduction to Power BI fundamentals and core concepts that form the foundation of your analytics journey.

Assessment

Previous 3 modules test to evaluate your understanding and readiness for advanced topics.



An abstract background featuring a dark purple and blue color scheme. It includes various mathematical symbols like plus, minus, multiplication, and division signs, as well as numbers and formulas such as $(37)^{2^2}$, $\frac{10\% - 162^m}{2.24} \div 19 + 6.62$, and $2 + \frac{17}{5}$. A 3D-rendered calculator with a black body and red buttons is positioned in the lower-left quadrant. The overall aesthetic is modern and tech-oriented.

Module 2: Essential DAX Functions

Basic Aggregations

SUM, COUNT, AVERAGE -
fundamental calculations for
data analysis

Iterator Functions

SUMX, COUNTX, AVERAGEX -
row-by-row calculations for
complex scenarios

Context Control

CALCULATE DAX - modify filter context for precise calculations

Advanced DAX Techniques

1

Conditional Logic

SWITCH function for multiple condition handling

2

Data Retrieval

LOOKUPVALUE for finding specific values across tables

3

Ranking & Selection

TOPN DAX for identifying top performers

4

Variables

Optimize performance and readability with DAX variables

Time Intelligence Mastery

1

Calendar Setup

CALENDAR & CALENDARAUTO for date table creation

2

Date Navigation

DATEADD & DATESINPERIOD for time-based calculations

3

Period Comparisons

PARALLEL PERIOD for year-over-year analysis

4

Running Totals

TOTALYTD, QTD, MTD for cumulative metrics



Module 3: Data Modeling Excellence



Advanced Data Control

Filter Context Management

- ALL - Remove all filters from context
- ALLSELECTED - Respect visual-level filters
- ALLEXCEPT - Remove all filters except specified
- USERRELATIONSHIP - Activate inactive relationships

Data Aggregation

- GROUPBY - Group data with custom aggregations
- SUMMARIZE - Create summary tables with calculations



Module 4: Enterprise Deployment



Power BI Service

Publishing reports and importing data from desktop to service



Row-Level Security

Static and dynamic security implementation for data protection



Advanced Editor

Power Query customization for complex data transformations



Service Comparison

Power BI Free vs Premium features and capabilities

Capstone Project: Healthcare Analytics



Real-World Application

Apply all learned concepts in a comprehensive healthcare analytics project, demonstrating mastery of Power BI development.

This major project integrates DAX functions, data modeling, security implementation, and service deployment to create a production-ready healthcare analytics solution.