



TECH NEXTGEN ACADEMY

POWER BI & BUSINESS INTELLIGENCE

Connect. Transform. Model. Analyze. Visualize. Decide.

Professional Level

Practical Classroom Training

Project-Based Learning

Duration: 3 Months

TURN DATA INTO BUSINESS INTELLIGENCE

Modern organizations generate huge amounts of data—but data becomes valuable only when it can be **understood, analyzed and transformed into actionable insights**.

At **Tech NextGen Academy**, you will learn how to use **Microsoft Power BI** to connect to real-world data, clean and transform datasets, build data models, write DAX calculations, create interactive dashboards and communicate business insights effectively.

Through hands-on exercises, realistic business datasets and industry-inspired projects, you will follow the complete **Business Intelligence workflow** from raw data to executive-ready dashboards.

Our Goal: **From Raw Data to Business Intelligence Professional.**

WHO IS THIS COURSE FOR & PREREQUISITES

-  Working Professionals
-  MIS Executives & Reporting Professionals
-  Business & Sales Professionals
-  Accounts & Finance Professionals
-  Business Analysts
-  Students & Graduates
-  Job Seekers & Freshers
-  Excel Professionals
-  Aspiring Data Analysts
-  Anyone who wants to build a career in Data Analytics & BI

Prerequisite: Basic Excel knowledge is recommended. Prior knowledge of Advanced Excel is helpful but **not mandatory**. No programming experience is required.

WHAT YOU WILL MASTER — COURSE CURRICULUM

01 POWER BI & BUSINESS INTELLIGENCE FUNDAMENTALS

UNDERSTAND HOW MODERN BI WORKS

- What is Business Intelligence? / What is Data Analytics?
- Introduction to Microsoft Power BI Ecosystem
- Power BI Desktop, Power BI Service, Power BI Mobile
- Power BI Report Server — introduction
- Power BI vs Excel & traditional reporting
- Understanding the BI workflow: Data → Transformation → Model → Analysis → Visualization → Decision

POWER BI INTERFACE

- Power BI Desktop interface overview
- Report View, Data View, Model View
- Fields/Data pane, Visualizations pane, Filters pane
- Properties & formatting options
- Working with reports, saving & managing Power BI files

PROJECT: Create your first Interactive Sales Report using a sample business dataset.

02 DATA SOURCES & DATA CONNECTIONS

CONNECT POWER BI TO DIFFERENT DATA SOURCES

- Understanding data sources
- Connecting to Excel, CSV, Text files & Folder
- Connecting to databases & SQL Server
- Connecting to Web data & SharePoint — introduction
- Connecting to other supported data sources
- Import vs DirectQuery — fundamentals

DATA CONNECTION MANAGEMENT

- Loading data into Power BI & Previewing data
- Selecting required tables
- Managing connections & Refreshing data
- Understanding data source credentials
- Data source considerations

PRACTICAL: Connect Power BI to multiple business data sources and create a consolidated reporting environment.

03 POWER QUERY & DATA TRANSFORMATION

CLEAN. TRANSFORM. PREPARE. — *Power Query is the foundation of a reliable Power BI data workflow.*

DATA PREPARATION & TEXT TRANSFORMATION

- Introduction to Power Query & Power Query Editor
- Query interface, Query steps & Data types
- Renaming & removing columns/rows, Filtering & Sorting
- Removing duplicates, Handling blanks & Replacing values
- Fill Down / Fill Up
- Split/Merge columns, Extract text, Format text (Trim, Clean)
- Replace errors, Extract values by position/delimiter

ADVANCED TRANSFORMATION & COMBINING DATA

- Date formats, extraction, calculations & useful attributes
- Conditional columns & Custom columns
- Group By, Pivot columns, Unpivot columns, Transpose
- Index columns, Parameters — intro, Query dependencies
- Merge Queries & Append Queries (Join concepts)
- Combining multiple tables & Folder-based consolidation

PROJECT: Build an automated Monthly Sales Data Transformation System using Power Query.

04 DATA MODELING

BUILD THE FOUNDATION OF A PROFESSIONAL BI REPORT — *Understanding data modeling is a critical skill.*

DATA MODELING FUNDAMENTALS & STAR SCHEMA

- What is data modeling? Tables and relationships
- Fact tables vs Dimension tables
- Primary keys & Foreign keys
- Understanding Star Schema & designing analytical models
- Avoiding unnecessary complexity & Model organization
- Best practices for analytical models

RELATIONSHIP MANAGEMENT & DATE TABLE

- One-to-many & Many-to-many relationships
- Cardinality & Cross-filter direction
- Active & inactive relationships
- Relationship validation & troubleshooting; Filter propagation
- Why a Date table matters & creating a Date table
- Date hierarchy, Calendar attributes & Mark as Date Table

PRACTICAL PROJECT: Design a complete Sales Data Model containing: Customers → Products → Sales → Date → Region.

05 DAX FUNDAMENTALS

LEARN THE LANGUAGE OF POWER BI ANALYSIS — DAX enables powerful calculations and measures.

DAX FUNDAMENTALS & BASIC FUNCTIONS

- What is DAX? DAX syntax, formulas & data types
- Measures vs Calculated Columns vs Calculated Tables
- DAX operators & evaluation concepts
- Basic Functions: SUM, AVERAGE, MIN, MAX, COUNT, COUNTA, DISTINCTCOUNT

LOGICAL FUNCTIONS & CONDITIONAL CALCULATIONS

- Logical Functions: IF, SWITCH, AND, OR, NOT, IFERROR
- Conditional Calculations: CALCULATE, FILTER
- Iterator Functions: SUMX, AVERAGEX, COUNTX, MINX, MAXX

PRACTICAL: Create business measures: Total Sales, Total Profit, Average Sales, Number of Customers, Number of Orders, Profit Margin & Average Order Value.

06 ADVANCED DAX & DATA ANALYSIS

GO BEYOND BASIC CALCULATIONS

FILTER CONTEXT & ADVANCED DAX

- Understanding filter context, row context & context transition
- CALCULATE & Modifying filter context
- Functions: ALL, ALLSELECTED, ALLEXCEPT, REMOVEFILTERS
- Values: VALUES, SELECTEDVALUE, HASONEVALUE, ISFILTERED
- Iterator & Ranking: SUMX, AVERAGEX, COUNTX, RANKX

TIME INTELLIGENCE & BUSINESS ANALYSIS

- Time Intelligence: TOTALYTD, TOTALMTD, TOTALQTD, DATEADD
- SAMEPERIODLASTYEAR, PREVIOUSMONTH, PREVIOUSYEAR, DATESYTD, DATESMTD
- Month-on-Month (MoM) & Year-on-Year (YoY) growth
- Year-to-Date, Month-to-Date & Previous-period comparison
- Running totals, Ranking, Contribution analysis, Target vs Actual

PROJECT: Build a Sales Performance Analysis Model using advanced DAX measures.

07 DATA VISUALIZATION & REPORT DESIGN

TURN DATA INTO CLEAR VISUAL STORIES

CORE VISUALS & FORMATTING

- Bar, Column, Line, Area, Pie, Doughnut & Combo charts
- Scatter charts, Tables, Matrix, Cards, KPI, Gauge, Maps
- Titles, labels, legends, axes, gridlines & tooltips
- Data colors, backgrounds, borders & conditional formatting

VISUALIZATION PRINCIPLES & STORYTELLING

- Choosing the right visual & visual hierarchy
- Alignment, consistency, white space & reducing clutter
- Highlighting important KPIs & designing for readability
- Data storytelling fundamentals

PROJECT: Transform a raw analytical report into a professional management-ready Power BI report.

08 INTERACTIVE REPORTING

MAKE REPORTS DYNAMIC & USER-FRIENDLY

FILTERS & SLICERS

- Visual-level, Page-level & Report-level filters
- Slicers, Date slicers & Hierarchical slicers
- Sync Slicers across pages

INTERACTIVE FEATURES & TOOLTIPS

- Drill-down, Drill-up, Drill-through, Cross-filtering & Cross-highlighting
- Bookmarks, Buttons, Page navigation & Selection pane
- Standard tooltips & Report page tooltips

PROJECT: Create an Interactive Sales Analysis Report with slicers, drill-through pages, bookmarks and navigation.

09 ADVANCED VISUALS & DATA STORYTELLING

COMMUNICATE INSIGHTS, NOT JUST NUMBERS

ADVANCED VISUALS & INDICATORS

- KPI cards, KPI indicators & variance visuals
- Target vs Actual & trend analysis
- Waterfall charts, Funnel charts, Scatter analysis
- Decomposition Tree & Key Influencers AI visuals
- Small multiples — intro & Custom visuals overview

DATA STORYTELLING FRAMEWORK

- Identifying important insights & highlighting trends
- Comparing performance & finding anomalies
- Explaining business changes & executive reporting
- Turning analysis into strategic recommendations

PRACTICAL: Analyze a business dataset and present: What happened? → Why did it happen? → What is changing? → What should management do?

10 BUSINESS REPORTING & KPI ANALYSIS

USE POWER BI FOR REAL BUSINESS DECISIONS

DOMAIN ANALYTICS

- **Sales Analytics:** Revenue, Units sold, AOV, Profit, Margin, Sales growth, Regional/Product/Customer performance
- **Finance Analytics:** Revenue vs Expense, Profit, Budget vs Actual, Cost & Variance analysis
- **HR Analytics:** Headcount, Attendance, Attrition, Department performance
- **Inventory Analytics:** Stock levels, Inventory movement, Low-stock analysis

KPI DEVELOPMENT

- KPI selection & target setting
- KPI calculations & dynamic visualization
- KPI interpretation for leadership

PROJECT: Build a complete Business Performance Dashboard with multiple KPIs and analytical views.

11 ADVANCED POWER BI DASHBOARDS

BUILD PROFESSIONAL INTERACTIVE DASHBOARDS

DASHBOARD ARCHITECTURE

- Dashboard vs Report & Dashboard planning
- Audience analysis & identifying business questions
- Selecting KPIs & designing report pages
- Navigation structure & executive reporting

DASHBOARD COMPONENTS

- KPI cards, Charts, Tables, Matrix, Slicers, Buttons
- Bookmarks, Drill-through, Tooltips, Dynamic titles

BUSINESS DASHBOARDS CREATED BY STUDENTS:

 Sales Performance |  Finance |  HR Analytics |  Inventory |  Management KPI

12 POWER BI SERVICE & CLOUD

- Power BI Service intro & Workspaces
- Publishing reports, Reports vs Dashboards
- Semantic models & published content management
- Sharing reports/dashboards & collaboration
- Exporting reports & Subscriptions intro
- Manual & Scheduled Refresh setup

PRACTICAL: Publish project to Cloud Service & configure workflow.

13 SECURITY & GOVERNANCE

- Data security fundamentals & permissions
- Access management & sharing considerations
- Row-Level Security (RLS) & roles setup
- Applying security filters & privacy
- Report governance & dataset documentation
- Naming conventions, versioning & backup

PRACTICAL: Build Region-Based RLS Model.

14 — REAL-WORLD BUSINESS INTELLIGENCE SIMULATION

"DON'T JUST BUILD REPORTS. SOLVE BUSINESS PROBLEMS." — Work as a Junior Power BI / Business Intelligence Analyst.

- 1 Business Requirements:** Understand the business problem & identify required KPIs.
- 2 Connect & Clean:** Connect to multiple data sources; use Power Query to clean and transform.
- 3 Model & Calculate:** Build structured data model/relationships; create DAX measures & calculations.
- 4 Visualize & Interact:** Build charts & KPIs; add slicers, drill-through, bookmarks & navigation.
- 5 Dashboard, Publish & Present:** Create executive report, publish to Service & explain insights/recommendations.

FINAL OUTPUT: A complete Business Intelligence Dashboard Portfolio.



CAPSTONE PROJECT & TECH NEXTGEN METHOD

Capstone Deliverables

- ✓ Clean & Transformed Dataset
- ✓ Structured Data Model & DAX Measures
- ✓ Interactive Power BI Report & Executive Dashboard
- ✓ KPI Analysis & Written Business Insights Report
- ✓ Published Power BI Project on Cloud
- ✓ Final Live Presentation & Viva

8-Step Learning Method

LEARN → PRACTICE → TRANSFORM → MODEL → ANALYZE → BUILD → PRESENT → GROW

01 Concept | 02 Demo | 03 Practice | 04 Transform | 05 Model | 06 Analyze | 07 Build | 08 Present



ASSESSMENT, GRADING & CERTIFICATION

Your progress is evaluated through: **Assignments → Power Query Exercises → DAX Challenges → Data Modeling Tasks → Dashboard Projects → Practical Tests → Capstone Project → Viva & Presentation.**

Score	Grade
90–100%	A+
80–89%	A
70–79%	B+
60–69%	B
Below 60%	Needs Improvement



TECH NEXTGEN ACADEMY

Course Completion Certificate

Awarded upon successful practical evaluation

WHY TECH NEXTGEN ACADEMY?

NOT JUST POWER BI CLASSES. A COMPLETE BUSINESS INTELLIGENCE LEARNING EXPERIENCE.

-  **Real-World Data Connections:** Multiple dataset types.
-  **Power Query Training:** Professional data cleaning.
-  **Data Modeling:** Analysis-ready star schemas.
-  **DAX Training:** Powerful measures & calculations.
-  **Dashboard Development:** Dynamic executive reports.
-  **Business Simulation:** Analyst-style BI workflow.
-  **Project-Based Training:** Hands-on vs tutorial only.
-  **Portfolio-Oriented Learning:** Showcase your skills.
-  **Presentation & Storytelling:** Communicate insights.
-  **Power BI Service:** Cloud publishing & sharing.
-  **Assessment-Based Certification:** Practical evaluation.

WHAT YOU WILL BE ABLE TO DO

- ✓ Connect Power BI to multiple data sources
- ✓ Import, clean and transform data with Power Query
- ✓ Combine and consolidate multiple datasets
- ✓ Build professional star-schema data models
- ✓ Write calculated columns and DAX measures
- ✓ Perform time-based analysis (YoY, MoM, YTD)
- ✓ Analyze KPIs and business performance
- ✓ Create interactive Power BI reports & dashboards
- ✓ Use slicers, drill-through, bookmarks & navigation
- ✓ Create management-ready reports
- ✓ Publish reports to Power BI Service
- ✓ Understand data refresh and sharing concepts
- ✓ Apply basic Row-Level Security (RLS)
- ✓ Identify trends, patterns and business insights
- ✓ Present analytical findings professionally
- ✓ Build a portfolio of real-world Power BI projects

CONTINUE YOUR DATA JOURNEY

After completing Power BI & Business Intelligence, progress toward: ADVANCED DATA ANALYTICS & BI

→ Advanced DAX & Data Modeling | → SQL for Data Analytics | → Python for Data Analysis | → Statistics for Data Analytics | → Real-World Analytics Projects | → Data Analyst Career Preparation

BUILD YOUR SKILLS. TRANSFORM THE DATA. DRIVE BETTER DECISIONS.

YOUR NEXT STEP: STOP JUST LOOKING AT DATA. START UNDERSTANDING IT.

POWER BI & BUSINESS INTELLIGENCE — From Raw Data → Business Intelligence

Tech NextGen Academy — Learn Today. Lead Tomorrow.

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Admissions Open | Limited Seats | Duration: 3 Months