



**BRUFELLAS**  
TECH SOLUTIONS

# Power BI & SQL Course

Unlock your potentials, become a Data Analyst

**COURSE BROCHURE**



Unlock the power of data and step confidently into the future of decision-making. This hands-on Data Analytics course is designed to equip you with practical skills to collect, analyze, and visualize data for smarter decision-making.

You'll learn tools like Excel, Power BI, SQL, Tableau, GitHub, and ChatGPT, and build real-world projects that take you from a beginner to a confident Data Analyst, ready to deliver insights across any industry.

## COURSE OVERVIEW

<b>Delivery Method:</b>	Instructor Led
<b>Duration:</b>	6 Weeks
<b>Internship Duration:</b>	2 Weeks
<b>Skill Level:</b>	Beginner - Advanced
<b>Prerequisite:</b>	Basic Computer Knowledge
<b>Certificate:</b>	Earn a prestigious certificate upon completion
<b>Comprehensive Curriculum:</b>	Covering tools like Power BI, SQL, GitHub, and ChatGPT
<b>Hands-On Projects:</b>	Engage in over 5 industry-standard projects across various sectors.
<b>Certification Preparation:</b>	Guidance for the Microsoft Certified Data Analyst Associate (MCDAA) exam.



## What Makes This Course Different?

- **Guided by Experience:** Learn directly from a passionate data professional with real-world experience solving business problems with data.
- **Hands-On & Practical:** Build your confidence through projects that mirror actual industry scenarios, no fluff, just results.
- **All-Round Skillset:** Master essential tools like Power BI, SQL, GitHub, and ChatGPT to stand out in today's data-driven world.
- **Career-Focused Certification:** Earn a respected certificate that shows you're ready to deliver insights and drive business decisions.
- **Designed for You:** Whether you're a student, professional, or career switcher, this course is structured to fit your schedule and goals.



# Power BI & SQL Course

## Introduction

### The Data-Driven Era

In today's digital landscape, data is the new currency. Every day, approximately 2.5 quintillion bytes of data are generated, influencing decisions across industries.

Organizations worldwide are harnessing this data to drive innovation, optimize operations,

and gain competitive advantages. As the volume and complexity of data grow, so does the demand for skilled professionals who can interpret and leverage it effectively.



According to GlobeNewswire, the global data analytics market reflects this surge, with projections indicating a growth from USD 85.47 billion in 2025 to over USD 483.41 billion by 2032, at a CAGR of 28.0% . This exponential growth underscores the critical role of data analysts in today's economy.

### The Rising Demand For Data Analysts

The role of a data analyst has become one of the most sought-after positions in the modern workforce. According to the U.S. Bureau of Labor Statistics, employment for data analysts is projected to grow by 36% from 2023 to 2033, significantly outpacing the average for all occupations . This trend is mirrored globally, with organizations increasingly relying on data-driven insights to inform strategy and operations.

In the UK, data analyst salaries vary by region, with London offering between £45,000 and £120,000, while other regions like the Midlands and North range from £30,000 to £60,000 . In the U.S., entry-level data analysts earn an average of \$68,785 annually, with senior positions reaching up to \$93,000 . These figures highlight the lucrative nature of the profession across different markets.

## Career Flexibility and Global Opportunities

One of the most appealing aspects of a career in data analytics is its versatility. Data analysts are not confined to a single industry; their skills are applicable in finance, healthcare, technology, retail, and more. Moreover, the rise of remote work has expanded opportunities, allowing professionals to work from anywhere in the world.



According to Instarem, countries like Switzerland, the USA, Denmark, Germany, and the UK are among the highest-paying for data analysts, reflecting the global demand for these skills. This international demand opens doors for professionals seeking to work abroad or collaborate with global teams.

# Power BI & SQL Course

## More Info About the Course

### Analysis Types

Data analytics involves examining datasets to draw conclusions about the information they contain. It encompasses various types of analysis:

- **Descriptive Analytics:** What happened?
- **Diagnostic Analytics:** Why did it happen?
- **Predictive Analytics:** What is likely to happen?
- **Prescriptive Analytics:** What action should be taken?

By mastering these analytical approaches, data analysts provide actionable insights that drive business decisions and strategies. Our Data Analytics program is meticulously designed to equip you with the skills and knowledge required to excel in this dynamic field. Our goal is to train over 1,000 tech talents in 2025, addressing the global demand for skilled data analysts.

### Skills and Tools You'll Acquire

Throughout the program, you'll develop both technical and soft skills essential for a successful data analytics career:

#### Technical Skills:

MS SQL Server (Microsoft):



Power BI (Microsoft):



## Soft Skills:

Problem- Solving:



Critical Thinking:



Effective Communication:



Curiosity:



Business Acumen:



These skills ensure you're not only proficient in data analysis but also prepared to tackle real-world business challenges.

## Your Pathway To Success

Upon completing the program, you'll be well-positioned to embark on a rewarding career in data analytics. Benefits include:

- **Descriptive Analytics: Work Experience:** Gain six months of valuable experience through portfolio projects.
- **Certification:** Receive a certificate from Brufellas Tech Solutions Limited.
- **Career Support:** Assistance with CV optimization, LinkedIn profiling, and job search strategies.
- **Global Opportunities:** Access to remote and international job markets, with potential earnings in USD, GBP, or EUR.
- **Professional Network:** Join a global community of data analysts and industry professionals.

Embark on this transformative journey and become a data analyst equipped to make impactful decisions in any organization.

# Power BI & SQL Curriculum

## Microsoft Power BI Course



### Module 1: Introduction to Power BI & Environment

Build compelling charts and dashboards for decision-making and storytelling.

- What is Power BI and Why Use It?
- Overview of Power BI Ecosystem: Desktop, Service, Mobile
- Differences Between Power BI and Excel
- Installing Power BI Desktop
- Power BI Architecture and Workflow
- Navigating the Power BI Interface: Ribbon, Panes, Views
- Types of Data Connectors: Files, Folders, Databases, Web, APIs
- Creating Your First Report (Mini Hands-On)



## **Module 2: Data Acquisition & Power Query (ETL Process)**

- Getting Data into Power BI
  - Import Mode vs Direct Query Mode vs Live Connection
- The Navigator Pane & Data Preview
- Introduction to Power Query Editor
- Power Query Transformation Tools:
  - Removing, Filtering, Reordering, Renaming Columns
  - Changing Data Types
  - Splitting & Merging Columns
  - Conditional Columns
  - Pivoting & Unpivoting
  - Replacing Values and Errors

## **Module 3: Data Modelling in Power BI**

- Getting Data into Power BI
- Introduction to Data Modelling: Why it Matters
- Understanding Tables: Fact vs Dimension Tables
- Primary Key, Foreign Key Concepts
- Creating Relationships and Understanding Cardinality
- One-to-Many vs Many-to-Many
- Star Schema vs Snowflake Schema
- Managing Relationships and Auto Detect
- Creating a Date Table using DAX
- Model View: Managing and Formatting Model



## Module 4: Introduction to DAX (Data Analysis Expressions)

- What is DAX and When to Use It
- Calculated Columns vs Measures
- Basic DAX Functions:
  - SUM, AVERAGE, COUNTROWS, DISTINCTCOUNT
  - IF, SWITCH, RELATED
- Logical and Text Functions
- Aggregations and Row Context
- Filter Context and CALCULATE
- Time Intelligence: YTD, MTD, QTD, SAMEPERIODLASTYEAR
- Creating a Calendar Table using DAX

## Module 5: Data Visualization and Storytelling

- Visual Design Principles & Dashboarding Best Practices
- Types of Visuals:
  - Bar, Column, Line, Pie, Waterfall
  - Table vs Matrix
  - KPI Cards, Gauges, Slicers, Maps
- Drill Down, Drill Through, Tooltips
- Using Bookmarks, Buttons, and Page Navigation
- Grouping, Sorting, and Hierarchies
- Formatting and Themes
- Adding Images, Textboxes, and Shapes for Storytelling



## **Module 6: Power BI Service & Collaboration**

- Overview of Power BI Service
- Creating and Publishing Reports from Power BI Desktop
- Creating Dashboards in Power BI Service
- Workspaces: Creating and Managing
- Row-Level Security (RLS): Defining Roles and Permissions
- Sharing Reports and Dashboards
- Creating Apps for Distribution, Working with Dataflows and Power BI Scorecards
- Exporting to PowerPoint, PDF & Integration with Office Tools

## **Module 7: Capstone Project & Case Studies**

- Case Study 1: Business Sales Dashboard (End-to-End)
- Case Study 2: Financial Analytics Dashboard
- Connecting to Multiple Data Sources (Folder, API, Web)
- Intermediate DAX & Visualization Techniques
- Incorporating AI Visuals (Decomposition Tree, Key Influencers)
- Real-World Problem Solving using Power BI
- Storytelling & Executive Dashboard Presentation



# Power BI & SQL Curriculum

## SQL Course



### **Module 8:** Introduction to Data & Databases

- What is Data?
- What is a Database?
- From Spreadsheets to Databases: Differences and Use Cases
- Database Management Systems (DBMS)
- Relational Database Management Systems (RDBMS)
- Types and Examples of RDBMS
- Understanding Data Models: Tables, Records, and Fields
- Introduction to Primary Keys and Foreign Keys
- Facts and Dimension Tables
- Schema in Databases
- OLTP vs OLAP
- Introduction to Entity-Relationship Diagrams (ERD)

## **Module 9: Why SQL and Its Relevance in Analytics**

- Why SQL? Importance in Data Analysis
- SQL vs NoSQL
- SQL in the Data Analytics Workflow
- Use Cases: SQL for Business, Product, Marketing, and Financial Analytics
- Using ChatGPT to Generate and Understand SQL Queries

## **Module 10: Setting Up and Getting Started**

- Installing SQL Server or MySQL (Local & Cloud Options)
- Setting Up a Sample Database for Practice
- Introduction to SQL Interfaces (SSMS, DBeaver, MySQL Workbench, Azure Data Studio)
- Understanding Schemas and Permissions
- Overview of Real-World Datasets to Be Used Throughout the Course

## **Module 11: Writing SQL Queries – The Basics**

- SELECT, FROM, WHERE
- SELECT DISTINCT, COUNT, COUNT DISTINCT
- ORDER BY, LIMIT / TOP
- BETWEEN, IN, LIKE, NOT LIKE
- ALIASING with AS
- Filtering with Logical Operators: AND, OR, NOT



## Module 12: Aggregation and Grouping

- Aggregate Functions: SUM, AVG, MIN, MAX, COUNT
- GROUP BY and HAVING Clauses
- Practical Business Scenarios for Aggregates
- Combining Filters and Grouping

## Module 13: SQL Joins and Relationships

- Understanding Table Relationships
- JOIN Types:
  - INNER JOIN
  - LEFT JOIN
  - RIGHT JOIN
  - FULL OUTER JOIN
  - CROSS JOIN
  - SELF JOIN
- Real-World Join Examples
- Visualizing Joins Using Diagrams
- Combining Joins with Filters and Aggregates

## Module 14: Data Manipulation and Schema Operations

- Creating Databases and Tables (CREATE)
- Understanding Data Types and Constraints
- Inserting Data (INSERT)
- Updating and Deleting Data (UPDATE, DELETE)
- ALTER and DROP Statements
- Working with Transaction Control: COMMIT, ROLLBACK
- Working with NULLs



## Module 15: Advanced SQL Concepts

- Subqueries: Scalar, Correlated, and Nested
- Conditional Logic: CASE, WHEN, THEN, ELSE
- Functions:
  - COALESCE
  - CAST and CONVERT
  - Date Functions: NOW(), DATEPART, EXTRACT
- Window Functions (Introduction): ROW\_NUMBER, RANK, OVER()

## Module 16: Integrating SQL with Analytics Tools

- Exporting SQL Results to Excel or CSV
- Connecting SQL to Power BI or Tableau
- Building Simple Dashboards Using SQL Data
- Query Optimization Basics

## Module 17: Capstone Project and Case Studies

- Real-World Case Study: Business Sales Analysis
- Real-World Case Study: Customer Retention or Marketing Campaigns
- End-to-End Project:
  - Define Problem
  - Query and Transform Data
  - Analyze and Visualize Output
  - Make Recommendations
- Final Assessment and Feedback



# Power BI & SQL Curriculum

## Problem Solving



### Problem Solving for Data Analysts

At the heart of every successful Data Analyst is the ability to solve real-world problems using data. This final module is designed to empower learners with practical strategies and analytical thinking techniques to identify, understand, and solve business challenges using data. It emphasizes structured problem-solving, critical thinking, and the application of analytical tools in real-life scenarios, especially within data-driven decision-making environments.



# **Problem Solving Techniques for Data Analysts**

1. Clearly Defining the Problem
2. CRISP-DM Framework
3. Root Cause Analysis with the 5 Whys
4. Using Issue Trees
5. The MECE Principle (Mutually Exclusive, Collectively Exhaustive)
6. Prioritization Matrix
7. Effective Data Gathering
8. Selecting the Right Analytical Method
9. Synthesizing Insights
10. Making Data-Driven Decisions





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