BRUFELLAS
TECH SOLUTIONS

# Data Analytics 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 | |
|---|---|
| **Delivery Method:** | Instructor Led |
| **Duration:** | 3 Months |
| **Internship Duration:** | 2 Months |
| **Skill Level:** | Beginner - Advanced |
| **Prerequisite:** | Basic Computer Knowledge |
| **Certificate:** | Earn a prestigeous certificate upon completion |
| **Comprehensive Curriculum:** | Covering tools like Excel, Power BI, SQL, Tableau, GitHub, and ChatGPT |
| **Hands-On Projects:** | Engage in over 10 industry-standard projects across various sectors. |
| **Certification Preparation:** | 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 Excel, Power BI, SQL, Tableau, 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.

# Data Analytics 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.

# Data Analytics 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:**

Advanced Microsoft Excel: 

Power BI (Microsoft): 

Tableau (Salesforce): 


MySQL (Oracle): 


MS SQL Server (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.

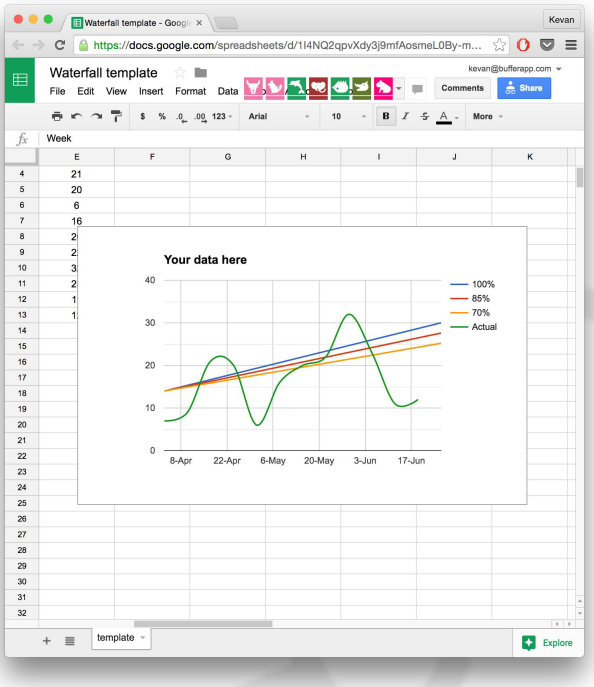
## Your Pathway To Success

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.

# Data Analytics Curriculum
# Advanced Excel Course




## Module 1: Excel Fundamentals & Environment

Familiarize learners with the Excel interface, navigation, and foundational operations.

- Introduction to Excel & Workbook Navigation
- Excel Interface & Ribbon Customization
- Excel File Formats and Templates
- Cell Referencing (Relative, Absolute, Mixed, Structured)
- Excel Shortcuts & Efficiency Tips
- Basic Operations (Copy, Move, Paste, Autofill, Freeze Panes, Hide/Unhide, Insert/Delete Rows/Columns)
- Understanding Data Types
- Excel Security: Locking, Protecting Sheets, and Files

## **Module 2:** Essential Excel Functions & Formulas

Build a strong foundation in commonly used functions and formulas. Topics Covered:

- Basic Math Functions (SUM, AVERAGE, COUNT, COUNTA, MAX, MIN)
- IF, NESTED IF, AND, OR Functions
- DATE & TIME Functions (TODAY, NOW, DATEDIF, YEAR, MONTH, WEEKDAY)
- Text Functions (LEFT, RIGHT, MID, LEN, CONCAT, TEXTJOIN)
- Error Handling (IFERROR, ISERROR, IFNA)
- Formula Auditing and Tracing Errors

## **Module 3:** Data Cleaning & Preparation

Equip learners with tools to clean, structure, and prepare messy data for analysis.

- Data Cleaning Concepts in Excel
- Text Cleaning Functions (TRIM, CLEAN, SUBSTITUTE)
- Convert Data Types (VALUE, TEXT, UPPER, LOWER, PROPER)
- FIND, SEARCH, REPLACE, TEXTSPLIT
- Data Formatting (Number, Date, Text)
- Paste Special Techniques (Values, Transpose, Formats, Formulas)

## **Module 4:** Lookup & Advanced Functions

Learn data lookup, referencing, and combining datasets efficiently.

- Lookup Functions (VLOOKUP, HLOOKUP, INDEX + MATCH)
- Introduction to XLOOKUP
- Advanced Lookup: Nested VLOOKUP, Approximate Match

- LOOKUP, CHOOSE, INDIRECT
- Dynamic Arrays: UNIQUE, FILTER, SORT, SEQUENCE, VSTACK, HSTACK
- Data Validation with Dropdown Lists

## Module 5: Data Analysis Tools

Apply analytical tools to summarize and extract insights from data.

- Sorting & Filtering (Basic & Advanced)
- Conditional Formatting & Custom Rules
- Subtotals vs AGGREGATE Functions
- Logical Functions (IFS, COUNTIFS, SUMIFS, AVERAGEIFS)
- Descriptive Statistics Using Excel
- Using Goal Seek and What-If Analysis
- Scenario Manager & Data Tables

## Module 6: Data Visualization & Dashboarding

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

- Chart Types (Bar, Line, Pie, Combo, Sparklines)
- Chart Formatting Best Practices
- Pivot Tables: Summarization, Grouping, Filtering
- Pivot Charts
- Slicers and Timeline Filters
- Building Dashboards with Linked Charts & Pivot Tables
- Using Form Controls (Checkboxes, Buttons)
- Storytelling with Data & Insight Presentation
- Embedding Charts in PowerPoint for Reports

## **Module 7:** Excel for Data Analysts + AI Integration

Introduce real-world data analyst workflows and leverage AI (e.g., ChatGPT) for Excel.Chart Types (Bar, Line, Pie, Combo, Sparklines)Chart Formatting Best Practices

- Real-World Case Studies (HR, Sales, Finance, Inventory, Marketing)
- Problem-Solving Framework (Business Problem → Questions → Data → Insights → Recommendation)
- Writing Excel-Based Reports
- Exporting and Sharing Reports
- Introduction to Using ChatGPT for Excel:
  - Formula Troubleshooting
  - Scenario Suggestions
  - Prompting for Efficiency
  - Data Summarization
- Preparing for Excel-Based Interviews or Job Tests

# Data Analytics Curriculum
# Microsoft Power BI Course


## Module 8: 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 9:** 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 10:** 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 11:** 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 12:** 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 13: 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 14: 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

# Data Analytics Curriculum
# SQL Course


## Module 15: 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 16: 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 17: 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 18: 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 19: 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 20: 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 21: 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 22: 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 23: 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 24: 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

# Data Analytics Curriculum
# Tableau Course


## Module 25: Tableau Overview & Setup

Understand the role of Tableau in Data Analytics and set up the environment.

- What is Tableau & Why Tableau for Data Visualization?
- Tableau vs Power BI: Key Differences
- Tableau Product Suite Overview:
  - Tableau Desktop
  - Tableau Public
  - Tableau Online / Tableau Cloud
  - Tableau Server
  - Tableau Reader
  - Tableau Prep vs Power Query Editor
  - Tableau Desktop vs Tableau Public
- Installing Tableau Public/Desktop (Hands-on)

- Getting Started with Tableau Interface:
  - Start Page Overview
  - Data Source Page
  - Workspace Area (Shelves, Toolbar, Cards)

## Module 26: Connecting Data & Understanding Data

Learn to connect data sources and understand data structures.

- Connecting to Various Data Sources (Excel, CSV, Google Sheets, etc.)
- Using the Data Interpreter
- Tableau Data Types:
  - Text (String), Numeric, Date, DateTime
  - Boolean, Geographical (Maps)
- Dimensions vs Measures
- Working with Data Extracts (TDE & Hyper files)

## Module 27: Building Foundational Visualizations

Learn to create basic charts and visuals using Tableau.

- Creating Basic Charts:
  - Bar Chart, Line Chart, Pie Chart
  - Area Chart, Bubble Chart, TreeMap
- Choosing the Right Chart Type:
  - Charts for Comparison, Composition, Distribution & Relationships
- Working with Show Me Panel
- Sorting, Filtering, and Grouping Data

- Working with Hierarchies and Drill Downs
- Working with Aggregations and Granularity

## Module 28: Data Calculations & Expressions

Dive into formulas, calculated fields, and deeper data analysis. Creating Basic Charts:

- Creating Calculated Fields
- Basic Calculations: String, Numeric, Date
- Table Calculations
- Logical Expressions: IF, CASE, ZN, ISNULL, etc.
- Level of Detail (LOD) Expressions: FIXED, INCLUDE, EXCLUDE
- Working with Parameters
- Using Functions like:
  - NOW(), DATEDIFF(), DATEPART(), RANK(), INDEX(), etc.

## Module 29: Advanced Visuals, Mapping & Interactive

Create advanced charts, use maps, and interactive elements.

- Dual Axis & Combined Charts
- Scatter Plots and Trend Lines
- Maps and Geographical Visualizations
- Working with Annotations and Reference Lines
- Dashboard Design Best Practices
- Building Interactive Dashboards:
  - Actions: Filter, Highlight, URL
  - Adding Filters, Legends, and Navigation Buttons

## **Module 30:** Storytelling & Data Blending

Learn storytelling, blending datasets, and dashboard deployment.

- Creating and Publishing Dashboards
- Using Story Feature for Presentations
- Data Blending vs Joins in Tableau
- Working with Multiple Data Sources
- Exporting and Sharing Dashboards
  - Export to PDF, Image, PowerPoint
  - Publish to Tableau Public or Tableau Server
- Using ChatGPT for Insight Suggestions (Optional AI Integration)

## **Module 31:** Predictive Analytics & End-to-End Projects

Apply your knowledge to real-world scenarios.Creating and Publishing Dashboards

- Forecasting in Tableau (Built-in Prediction Models)
- Trend & Statistical Analysis
- Building a Forecasting Dashboard
- End-to-End Data Visualization Project:
  - From Raw Data to Insightful Dashboard
  - Case Study: Business Metrics / Sales / Health Analytics
- Capstone: Peer Review & Project Presentation

# Data Analytics 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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