



Data Analyst Course Syllabus

(Advanced Excel + SQL + Power BI – Industry Level)

Course Duration: 8 Months

Total Hours: 200–240 Hours

Mode: Practical + Real Projects + Case Studies

Tools Covered:

- Microsoft Excel
- Microsoft Power BI
- Microsoft SQL Server

Month 1–2: Advanced Excel for Data Analysis

Module 1: Excel Fundamentals

Duration: 1 Week

Topics

- Excel Interface & Navigation
- Workbook & Worksheet Management
- Cell Referencing
- Formatting & Data Types
- Sorting & Filtering
- Freeze Panes
- Data Cleaning Basics

Practical

- Student Result Sheet
- Employee Salary Sheet





Module 2: Excel Formulas & Functions

Duration: 3 Weeks

Basic Functions

- SUM
- AVERAGE
- COUNT
- MAX / MIN

Logical Functions

- IF
- Nested IF
- AND / OR
- IFERROR

Text Functions

- LEFT
- RIGHT
- MID
- LEN
- TRIM
- CONCAT

Date Functions

- TODAY
- NOW
- DATEDIF
- DAY / MONTH / YEAR

Lookup Functions

- VLOOKUP
- HLOOKUP
- XLOOKUP
- INDEX + MATCH

Practical

- Attendance System
- Sales Calculation Sheet





Module 3: Data Management Tools

Duration: 2 Weeks

Topics

- Data Validation
- Conditional Formatting
- Text to Columns
- Remove Duplicates
- Flash Fill
- Advanced Filtering

Practical

- Customer Database Management
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Module 4: Pivot Tables & Charts

Duration: 2 Weeks

Topics

- Pivot Tables
- Pivot Charts
- Grouping Data
- Slicers
- Timeline Filters

Practical

- Sales Analysis Dashboard
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Month 3–4: SQL for Data Analysis

Module 5: Database Fundamentals

Duration: 1 Week

Topics

- Introduction to Databases
- RDBMS Concepts
- Tables, Rows, Columns
- Primary Key / Foreign Key

Tool Used

- Microsoft SQL Server
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Module 6: SQL Queries

Duration: 3 Weeks

Topics

- SELECT Statement
- WHERE Clause
- ORDER BY
- GROUP BY
- HAVING Clause
- DISTINCT

Practical

- Query Customer Database
 - Sales Data Analysis
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Module 7: Advanced SQL

Duration: 3 Weeks

Topics

- JOINS
 - INNER JOIN
 - LEFT JOIN
 - RIGHT JOIN
- Subqueries
- Aggregate Functions
- CASE Statement
- Views

Practical

- Multi-table Data Analysis
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Month 5–6: Power BI Data Visualization

Module 8: Introduction to Power BI

Duration: 1 Week

Tool

- Microsoft Power BI

Topics

- Power BI Interface
 - Data Import
 - Data Transformation
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Module 9: Power Query

Duration: 2 Weeks

Topics

- Data Cleaning
- Merge Queries
- Append Queries
- Column Transformations

Practical

- Clean messy datasets
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Module 10: Data Modeling

Duration: 2 Weeks

Topics

- Relationships
 - Star Schema
 - Fact & Dimension Tables
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Module 11: DAX (Data Analysis Expressions)

Duration: 2 Weeks

Topics

- Calculated Columns
 - Measures
 - SUMX
 - CALCULATE
 - Time Intelligence Functions
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Month 7: Power BI Dashboards

Module 12: Data Visualization

Duration: 3 Weeks

Topics

- Charts & Visuals
- KPI Indicators
- Filters & Slicers
- Drill-down Reports
- Interactive Dashboards

Dashboards Created

- Sales Dashboard
 - HR Dashboard
 - Finance Dashboard
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Month 8: Projects & Job Preparation

Module 13: Real Industry Projects

Students will build:

1. Sales Performance Dashboard
 2. HR Analytics Dashboard
 3. Inventory Management Dashboard
 4. Financial Budget Analysis
 5. Customer Segmentation Analysis
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Module 14: Interview Preparation

Topics

- Excel Interview Questions
- SQL Interview Questions
- Power BI Interview Questions
- Data Analyst Resume Building
- Portfolio Creation

Tools Covered

Tool	Purpose
Microsoft Excel	Data Cleaning & Analysis
Microsoft SQL Server	Data Querying
Microsoft Power BI	Data Visualization

Additional Skills

- Data Cleaning Techniques
- Business Analytics Basics
- Dashboard Design Principles
- Data Storytelling
- MIS Reporting

Certification

Professional Data Analyst Certification

