

4-Month (16-Week) Data Analyst Course Curriculum

Module 1: Advanced Excel for Data Analysis

Data Manipulation, Business Analysis & Reporting

Week 1

- Excel Interface, Shortcuts, Productivity Techniques
- Lookup Functions (VLOOKUP, XLOOKUP, INDEX–MATCH)
- Text, Logical, Date Functions

Week 2

- Pivot Tables & Pivot Charts
- Conditional Formatting, Data Validation
- Excel Dashboards & KPI Design

Week 3

- Advanced Excel Functions & Array Formulas
- Power Query & Data Connections
- Excel for Financial Analysis & Reporting

Module 2: SQL for Data Extraction & Database Querying

Relational Databases, Query Writing & Data Retrieval

Week 4

- SQL Basics: SELECT, WHERE, ORDER BY
- JOINS (INNER, LEFT, RIGHT, FULL)
- GROUP BY, HAVING, Aggregations

Week 5

- Subqueries & Nested Queries
- Window Functions (ROW_NUMBER, RANK, LAG, LEAD)
- CTEs (Common Table Expressions)

Week 6

- Advanced Window Functions & Performance Optimization
- Real-World SQL Projects with Complex Datasets
- Query Optimization & Index Strategies

Module 3: Python for Data Analysis

Data Cleaning, Analysis & Automation Using Python

Week 7

- Python Basics (Syntax, Variables, Loops, Conditionals)
- Pandas & NumPy Fundamentals
- Data Cleaning (Nulls, Duplicates, Outliers)

Week 8

- Data Transformation & Aggregation
- Exploratory Data Analysis (EDA) Techniques
- Matplotlib & Seaborn Visualizations

Week 9

- Advanced Statistical Analysis with Python
- Time Series Data Analysis
- Automation Scripts & Data Pipelines

Module 4: Tableau for Data Visualization

Dashboarding, Storytelling & Business Reporting

Week 10

- Tableau Interface & Basic Charts
- Filters, Groups, Sets, Parameters
- Calculated Fields & Joins/Blends

Week 11

- Advanced Charts (Maps, Tree Maps, Dual Axis)
- Dashboard Design Principles & Best Practices
- Storytelling & Business Insights with Data

Module 5: Power BI for Business Intelligence

Data Modeling, DAX & Interactive Reporting

Week 12

- Power Query & Advanced Data Cleaning
- Data Modeling & Relationships
- DAX Basics (SUM, CALCULATE, FILTER)

Week 13

- Time Intelligence DAX & Advanced Measures
- Slicers, Filters, Bookmarks & Interactions
- Designing Interactive & Dynamic Reports

Module 6: Advanced Analytics & Advanced Topics

Data Storytelling, A/B Testing & Advanced Techniques

Week 14

- Advanced Data Storytelling & Communication
- A/B Testing & Statistical Hypothesis Testing
- Correlation, Regression & Predictive Analysis Fundamentals

Module 7: Case Studies & Capstone Project

End-to-End Business Analytics & Portfolio Building

Week 15

- Real-World Case Study 1: Multi-tool Integration (Excel + SQL + Python)
- Real-World Case Study 2: BI Tool Implementation (Tableau/Power BI)
- KPI Analysis & Insights Generation
- Mock Interviews & Resume Building

Week 16

- Capstone Project (End-to-End Data Analysis Pipeline)
- Dashboard Presentation (Power BI/Tableau)
- Portfolio Submission & Career Guidance
- Final Evaluation & Graduation

This comprehensive 16-week curriculum provides hands-on training across all essential data analyst tools and techniques, preparing students for real-world analytics roles.