

Data Processing and Basics of Business Analysis

Course Objectives

The objective of this course is to equip learners with foundational skills in data processing, data analysis, and the core principles of business analysis. The course aims to develop the ability to work with data effectively using tools like **Excel, SQL, and BI platforms**, while also introducing learners to business analysis methodologies, including requirement gathering, stakeholder analysis, and business documentation.

Scope for Freshers

Job Role	Key Responsibilities
Data Processing Executive	Clean, sort, and process large volumes of data using Excel or internal tools.
MIS Executive	Generate reports, maintain dashboards, track KPIs using Excel/Power BI.
Junior Data Analyst	Analyze structured data, apply basic statistics, create charts and visuals.
Business Analyst Intern / Trainee	Assist in requirement gathering, stakeholder communication, and documentation (BRD/FRD).
Operations Analyst	Analyze business processes and operational data to identify inefficiencies.
Reporting Analyst	Design and maintain automated reports and dashboards.
Support Analyst (Business/IT)	Act as a bridge between tech teams and business stakeholders.
Project Coordinator (BA support)	Assist project managers with documentation, status tracking, and communication.
Market Research Analyst (Junior)	Support survey analysis, competitor analysis, and trend monitoring.

Target Audience: BCA/BSc IT/MCA/MSc IT/BE/BTech- CSc, IT

Duration: 241 Hours (151 Hours of Domain, 60 Hours of Soft Skills, 30 Hours of Capstone Projects)

Mode: Classroom / Online / Blended

Level: Beginner to Intermediate

Course Modules & Hourly Break-up

Module 1: IT & Data Fundamentals (17 hours)

Foundation for understanding data, systems, and roles

Topic	Hours
Introduction to IT and Business Systems	2
Data Types, Sources, and Lifecycle	3
Introduction to Business Analyst Role	2
Data vs. Information	2
Overview of Data-Driven Decision Making	2
Case Discussions / Real-Life Examples	4
Introduction to Data Governance & Data Ethics	2

Module 2: Excel for Data Processing (23 hours)

Practical skills for processing and analyzing data in Excel

Topic	Hours
Excel Interface, Formatting, Basic Functions	2
Logical & Text Functions (IF, CONCAT, etc.)	2
Lookup Functions (VLOOKUP, HLOOKUP, INDEX-MATCH)	3
Data Cleaning & Validation	2
Sorting, Filtering, Conditional Formatting	2
Pivot Tables & Charts	3
Dashboard Creation Basics	3
Practice Exercises & Mini Project	3
Excel Power Query – Automation & M Code Basics	2
Integration with Excel Online / Office 365 Tools	1

Module 3: SQL for Data Extraction (23 hours)

Basic SQL skills for data handling

Topic	Hours
Introduction to RDBMS and Databases	2
SQL Basics: SELECT, WHERE, ORDER BY	4
Joins, GROUP BY, Aggregate Functions	4
Subqueries & Views	3
Creating and Updating Tables	3
Introduction to NoSQL & JSON Handling in SQL	2
Query Optimization Basics	1
Hands-on Practice / Mini Assignment	4

Module 4: Data Visualization Tools (Power BI/Tableau) (26 hours)

Basic data reporting and storytelling with BI tools

Topic	Hours
Introduction to BI & Data Visualization Concepts	2
Power BI/Tableau Interface Overview	3
Importing & Cleaning Data	3
Creating Visuals: Charts, Maps, Tables	4
Creating Interactive Dashboards	4
Sharing Reports and Best Practices	2
Power BI DAX Basics & Measures	4
Data Storytelling Techniques with Visuals	2
Practice Project	2

Module 5: Basics of Business Analysis (23 hours)

Core concepts and tools used by business analysts

Topic	Hours
Business Analysis Process & Lifecycle	2
Requirement Gathering Techniques (Interview, Survey, etc.)	3
Stakeholder Analysis	2
Use Cases and User Stories	3
Business Process Modeling (Flowcharts, BPMN)	2
Tools: Google Docs, Lucidchart, Draw.io	2
Introduction to Agile BA & User Story Mapping	2
Hands-on with JIRA/Confluence for BA Tasks	1
Writing BRD, FRD – Introduction & Samples	2

Topic	Hours
Role Play / Simulation Activities	4

Module 6: ETL (16 hours)

Topic	Hours
Introduction to ETL & Data Flow Concepts	2
Extract – Gathering Data from Various Sources	3
Transform – Cleaning & Preparing Data	4
Load – Inserting Processed Data into Target Systems	4
Mini ETL Project + Assessment	3

Module 6: Basic Statistics & Data Analysis (23 hours)

Understanding data using basic stats

Topic	Hours
Mean, Median, Mode, Range, Variance, SD	4
Correlation, Trend Analysis	3
Introduction to Hypothesis Testing	3
Visualizing Statistical Data	2
Real-Life Scenario-Based Data Problems	2
Basics of Predictive Analysis Concepts	1
Hands-on with Excel for Statistical Analysis	4
Mini Assignments & Quizzes	4

Module 7: Soft Skills: Part 1 - Communication, Documentation & Tools (15 hours)

Soft skills and tools used in analysis & reporting

Topic	Hours
Business Communication (Verbal & Written)	3
Email Etiquette and Business Writing	3
Preparing Business Presentations (PowerPoint)	3
Task/Project Management Tools (JIRA/Trello)	3
Document Review and Feedback Process	3

Module 8: Soft Skills: Part 2 (45 hours)

- ❖ Communication Skills Practice Sessions
- ❖ Presentation Skills
- ❖ Grooming
- ❖ Team Work
- ❖ Time Management
- ❖ Stress Management
- ❖ Resume Writing & Interview Preparations
- ❖ Mock Interviews etc

Module 9: Capstone Project + Assessment (30 hours)

End-to-end project and job readiness

Topic	Hours
Project Planning & Group Division	2
Requirement Gathering (Interview Simulation)	4
Data Cleaning & Processing (Excel/SQL)	6
Dashboard/Report Creation (BI Tool)	6
Documentation: Use Case + Report Writing	4
Final Presentation & Review	4
Mock Interviews (Tech + HR)	4

Learning Outcomes

By the end of this course, learners will be able to:

- Clean, transform, and analyze data using Excel and SQL
- Visualize and report insights using Power BI/Tableau
- Understand the fundamentals of business analysis
- Communicate findings clearly and professionally
- Prepare for entry-level roles like Data Support, MIS Executive, or Junior Business Analyst