IICIS

ITKART Institute of Cyber & Information Security

6-Month Course

Data Analytics

www.iicis.org

24 Weeks (6 Months)

Job-ready Data Analyst skilled in data handling, visualization, reporting, and business decision-making

Instructor-led + Hands-on Labs + Projects + Case Studies

Module	Module Title
1	Introduction to Data Analytics
2	Excel for Data Analytics
3	SQL for Data Analysis
4	Data Visualization & BI Tools
	Revision & Internal Assessment
5	Statistics & Business Analytics
6	Python for Data Analytics
7	Advanced Analytics & Cloud Basics
8	Capstone Project & Career Preparation
	Final Evaluation

Module 1: Introduction to Data Analytics (Week 1–2)

Content:

- What is Data Analytics? Roles & Industry Use Cases
- Data Analytics vs Data Science vs Business Intelligence
- Fundamentals of Data-Driven Decision Making
- Overview of Tools: Excel, SQL, Power BI, Tableau, Python

Labs:

1. Setting up environment (Excel, SQL, Power BI/Tableau, Python basics)
2. Explore a sample dataset and create basic visualizations

Module 2: Excel for Data Analytics (Week 3–4)

Content:

- Advanced Excel Functions: VLOOKUP, INDEX, MATCH, IF, Nested Formulas
- Pivot Tables, Charts & Dashboards
- Data Cleaning & Transformation in Excel
- Power Query & Power Pivot Basics

Lab / Project:

1. Create a Sales Dashboard in Excel
2. Perform data cleaning and aggregation for a sample dataset

Module 3: SQL for Data Analysis (Week 5–6)

Content:

- SQL Basics: SELECT, WHERE, ORDER BY
- Aggregations, Joins, Subqueries & CTEs
- Window Functions & Ranking
- Case Studies: Analyzing Sales, Customers, Transactions

Labs/Project:

1. Analyze customer churn dataset with SQL queries
2. Perform aggregation and ranking analysis

Module 4: Data Visualization & BI Tools (Week 7–10)

Content:

- Principles of Data Visualization
- Power BI Essentials: Data Import, Cleaning, Transformation, Reports & Dashboards, DAX Functions
- Tableau Essentials: Interactive Dashboards, Filters, Parameters, Storytelling with Data
- Choosing the Right Visualization for Business Problems

Lab / Project:

1. Build an Interactive Business Dashboard using Power BI/Tableau
2. Combine multiple datasets and create actionable insights

Module 5: Statistics & Business Analytics (Week 11–14)

Content:

- Descriptive Statistics: Mean, Median, Mode, Variance, Standard Deviation
- Data Distribution & Probability Basics
- Hypothesis Testing & A/B Testing
- Correlation vs Causation
- Business Metrics & KPIs (Sales, Marketing, Finance, HR use cases)

Lab / Project:

1. Perform A/B Testing on a marketing campaign dataset
2. Interpret results and make business recommendations

Module 6: Python for Data Analytics (Week 15–18)

Content:

- Python Basics for Analysts: Variables, Functions, Loops, Conditional Statements
- Data Handling with Pandas & NumPy
- Visualization with Matplotlib & Seaborn
- Exploratory Data Analysis (EDA) with Python

Lab / Project:

1. Analyze E-commerce or Financial dataset
2. Visualize trends, patterns, and insights

Module 7: Advanced Analytics & Cloud Basics (Week 19–20)

Content:

- Introduction to Big Data & Cloud Analytics (AWS, Azure, GCP)
- ETL (Extract, Transform, Load) Processes
- Google Analytics Basics for Web & Marketing Data
- Intro to Predictive Analytics (Regression in Excel/Python)

Lab / Project:

1. Perform customer segmentation using clustering in Python
2. Use cloud tools to visualize web or marketing data

Module 8: Capstone Project & Career Preparation (Week 21–24)

End-to-End Project (Choose 1):

- Build a Sales Performance Dashboard (Excel/Power BI/Tableau)
- Customer Churn Analysis using SQL + Visualization
- Marketing Campaign Effectiveness Report
- Financial Forecasting with Python Analytics

- **Project Presentation & Reporting**
- **Resume Building for Data Analytics Roles**
- **Interview Preparation: SQL Queries, Case Studies, Problem Solving**

Labs:

1. Complete an end-to-end analytics project
2. Present actionable insights with interactive dashboards