



Quality Management & Operational Excellence



Digital Transformation and Innovation

Quality Data Analytics and Visualization

Course Introduction

This five-day intensive course is designed to equip participants with the essential skills to harness the power of data through effective analysis and visualization.

The program covers a comprehensive range of topics, from data preparation and exploration to advanced analytics and data storytelling. Participants will gain hands-on experience with industry-standard tools and techniques, enabling them to extract meaningful insights from complex datasets.

Through a combination of theoretical knowledge and practical exercises, learners will develop the ability to transform raw data into actionable information. The course emphasizes data quality, ethical considerations, and the effective communication of findings.

By the end of the course, participants will be equipped to make data-driven decisions, improve business performance, and contribute to organizational success.

Target Audience

- **Business Analysts:** Looking to deepen their understanding of data-driven decision-making.
- **Data Analysts:** Aiming to expand their skill set and improve data storytelling abilities.
- **Marketing and Sales Professionals:** Interested in leveraging data for customer insights and campaign optimization.
- **Financial Analysts:** Seeking to enhance financial modeling and forecasting capabilities.
- **Operations Managers:** Looking to optimize processes and improve efficiency through data analysis.

Learning Objectives

Overall Objective

Upon completion of this course, participants will be able to effectively utilize data analytics and visualization techniques to extract meaningful insights, inform decision-making, and communicate findings effectively.

Specific Objectives

By the end of the course, participants will be able to:

Data Management and Preparation:

- Identify and address data quality issues (missing values, outliers, inconsistencies).
- Clean and prepare data for analysis using appropriate techniques.
- Transform data into suitable formats for analysis and visualization.

Exploratory Data Analysis (EDA):

- Summarize and describe data using descriptive statistics.
- Identify patterns, trends, and anomalies within datasets.
- Create appropriate visualizations to communicate data insights effectively.

Data Analysis Techniques:

- Apply statistical methods for hypothesis testing and inferential analysis.
- Perform regression analysis to model relationships between variables.
- Utilize data mining techniques to discover hidden patterns in data.

Data Visualization:

- Select and create appropriate visualizations to communicate complex information clearly and concisely.
- Develop interactive dashboards to enable data-driven decision making.
- Apply storytelling techniques to effectively communicate data insights.

Big Data Analytics:

Understand the fundamentals of big data and its applications.

Utilize big data processing frameworks (Hadoop, Spark).

Manage and process large datasets efficiently.

Data Ethics and Future Trends:

- Adhere to data privacy and security best practices.
- Understand the ethical implications of data analytics.
- Stay updated on emerging trends and technologies in the field.

Course Outline

• 01 DAY ONE

Introduction to Data Analytics and Visualization

- Understanding Data: Types of data (structured, unstructured), data sources, and data quality.
- Data Cleaning and Preparation: Techniques for handling missing values, outliers, and inconsistencies.
- Data Exploration: Descriptive statistics, data distribution, and correlation analysis.
- Introduction to Data Visualization: Basic charting techniques (bar charts, line charts, pie charts).

• 02 DAY TWO

Data Analysis Fundamentals

- Hypothesis Testing: Understanding statistical significance and hypothesis testing.
- Regression Analysis: Linear regression, correlation analysis, and model evaluation.
- Data Mining Techniques: Association rule mining, clustering, and classification.
- Dashboard Design Principles: Creating effective and informative dashboards.

• 03 DAY THREE

Advanced Data Visualization

- Interactive Data Visualization: Creating dynamic and engaging visualizations.
- Geographic Information Systems (GIS): Mapping data for spatial analysis.
- Data Storytelling: Communicating insights through visualizations.

- Visualization Tools and Software: Overview of popular tools (Tableau, Power BI, Python libraries).

• 04 DAY FOUR

Big Data Analytics

- Introduction to Big Data: Understanding big data concepts and challenges.
- Hadoop and Spark: Basics of big data processing frameworks.
- Data Warehousing and Data Lakes: Data storage and management.
- Data Integration and ETL: Combining data from multiple sources.

• 05 DAY FIVE

Data Ethics and Future Trends

- Data Privacy and Security: Protecting sensitive data.
- Ethical Considerations in Data Analytics: Bias, fairness, and accountability.
- AI and Machine Learning in Data Analytics: Overview of applications.
- Emerging Trends in Data Visualization: Exploring new visualization techniques

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 30, 2025	July 4, 2025	5 days	4950.00 \$	Azerbaijan - Baku
July 21, 2025	July 25, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Dec. 22, 2025	Dec. 26, 2025	5 days	4250.00 \$	UAE - Dubai