



Information Technology

## Data Analytics and Visualization

## Course Introduction

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The "Data Analytics and Visualization" course offers participants a comprehensive journey through the world of data, from understanding the fundamentals of data analytics to mastering advanced visualization techniques. Over the course of three days, participants will explore topics such as data preprocessing, exploratory data analysis, statistical analysis, and machine learning. Additionally, participants will learn how to create impactful data visualizations and design interactive dashboards to communicate insights effectively to stakeholders. Through hands-on exercises, case studies, and group projects, participants will gain practical skills and insights to leverage data effectively for informed decision-making and drive business outcomes. By the end of the program, participants will be equipped with the tools and knowledge to navigate the data landscape with confidence and proficiency.

## Target Audience

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This course is designed for professionals across various industries who seek to enhance their proficiency in data analytics and visualization, including analysts, data scientists, business intelligence professionals, and decision-makers.

## Learning Objectives

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- Gain a solid understanding of data analytics fundamentals, including data preprocessing, exploratory data analysis (EDA), and statistical analysis.
- Develop skills in applying machine learning algorithms for data analysis and predictive modeling.
- Enhance ability to create clear and compelling data visualizations using industry-standard tools and techniques.
- Obtain practical experience in designing interactive dashboards and effectively communicating insights derived from data analysis.

- Apply ethical considerations and data privacy principles when working with sensitive data, ensuring responsible and ethical data practices.

## Course Outline

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### • Day 01

#### **Foundations of Data Analytics**

- Introduction to data analytics: Definitions, importance, and applications.
- Types of data and data sources: Structured vs. unstructured data, internal and external data sources.
- Data preprocessing and cleaning: Techniques for handling missing values, outliers, and inconsistencies.
- Introduction to data visualization: Principles, types of visualizations, and best practices.
- Hands-on exercise: Data cleaning and basic visualization using tools like Excel or Python libraries.

### • Day 02

#### **Data Analysis Techniques**

- Exploratory data analysis (EDA): Techniques for understanding data distributions, relationships, and patterns.
- Statistical analysis: Descriptive and inferential statistics for analyzing data.
- Introduction to machine learning: Overview of algorithms for classification, regression, and clustering.
- Feature engineering and selection: Techniques for transforming and selecting relevant features for analysis.
- Practical exercise: Performing EDA, statistical analysis, and basic machine learning on a dataset.

### • Day 03

Data Visualization and Communication

- Advanced data visualization techniques: Interactive visualizations, dashboards, and storytelling with data.
- Dashboard design principles and tools: Creating effective dashboards for data exploration and decision-making.
- Communicating insights from data: Techniques for presenting findings to stakeholders effectively.
- Data ethics and privacy considerations: Ethical considerations when working with data and ensuring data privacy.
- Group project: Designing and presenting a data visualization dashboard based on a real-world dataset.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 22, 2025	April 24, 2025	3 days	3950.00 \$	England - London
May 5, 2025	May 7, 2025	3 days	3250.00 \$	UAE - Dubai
July 27, 2025	July 29, 2025	3 days	3250.00 \$	KSA - Riyadh
Sept. 1, 2025	Sept. 3, 2025	3 days	2150.00 \$	Virtual - Online
Dec. 22, 2025	Dec. 24, 2025	3 days	3950.00 \$	Turkey - Istanbul