

DATA ANALYSIS TECHNIQUES FOR ENGINEERS, TECHNOLOGISTS, AND MANAGERS

"Transforming Data into Actionable Insights for Enhanced Decision-Making"

Schedule

Date	Venue	Fees (Online)
22 Jul 2026	Online	USD 450 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Data-driven decision-making is essential for engineers, technologists, and managers to optimize performance, enhance safety, and improve operational efficiency. Understanding how to analyze and interpret data empowers professionals to identify trends, make informed decisions, and implement corrective actions effectively.

This intensive 1-day online course equips participants with practical knowledge and hands-on techniques for analyzing data using statistical and analytical tools. Participants will learn how to interpret datasets, apply analytical methods, and transform raw data into actionable insights that support business, safety, and operational decisions.

Objectives

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

- Understand key data analysis concepts and techniques
- Use statistical methods to interpret engineering and operational data
- Apply data visualization techniques for better insight communication
- Identify trends, correlations, and patterns in datasets
- Make informed decisions based on data analysis outcomes
- Implement data-driven strategies to improve processes and safety

Why Attend

- Gain practical knowledge of data analysis methods for engineers and managers
- Enhance decision-making using quantitative and visual data insights
- Improve reporting, trend analysis, and problem-solving capabilities
- Learn techniques to identify risks, performance gaps, and improvement opportunities
- Apply statistical tools and data visualization methods in real-world scenarios

Target Audience

This program is designed for:

- Engineers and technologists across all disciplines
- Safety, maintenance, and operations managers
- Project and process managers requiring analytical insights
- Quality, reliability, and performance improvement professionals
- Professionals involved in monitoring, reporting, and decision-making

Individual Benefits

Key competencies that will be developed include:

- Strong understanding of data analysis concepts and applications
- Ability to apply statistical methods to interpret operational data
- Skills in data visualization and reporting for decision-making
- Enhanced problem-solving and process improvement capabilities
- Practical expertise in transforming raw data into actionable insights

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved data-driven decision-making within teams and departments
- Enhanced operational efficiency and safety outcomes
- Better monitoring, reporting, and corrective action implementation
- Increased organizational capability in performance analysis
- Strengthened culture of continuous improvement based on evidence

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Data analysis principles, techniques, and tools
- Case Studies - Real-world engineering and operational data analysis scenarios
- Workshops - Hands-on exercises on statistical methods, trend analysis, and visualization
- Peer Exchange - Group discussions on challenges and lessons learned
- Tools - Templates, analytical models, and visualization examples

Course Outline

Detailed 1-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Data Analysis Techniques for Engineers, Technologists, and Managers

Module 1: Introduction to Data Analysis (07:30 – 09:30)

- Importance of data-driven decision-making
- Overview of statistical and analytical methods
- Types of data and data sources

Module 2: Statistical Methods and Tools (09:45 – 11:15)

- Descriptive statistics and data summarization
- Measures of central tendency and dispersion
- Correlation, regression, and trend analysis

Module 3: Data Visualization Techniques (11:30 – 01:00)

- Charts, graphs, and dashboards
- Visual representation of trends and patterns
- Communicating insights effectively

Module 4: Practical Applications and Case Studies (02:00 – 03:30)

- Analyzing engineering and operational datasets
- Identifying risks, anomalies, and improvement opportunities
- Applying data analysis outcomes to decision-making

Certification

Participants will receive a Certificate of Completion in Data Analysis Techniques for Engineers, Technologists, and Managers, validating their competence in data analysis, statistical methods, visualization, and data-driven decision-making.

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