

aractech

Global Learning for Operational Leaders



DATA MANAGEMENT AND BUSINESS INTELLIGENCE | DMBI-001

Advanced Data Analysis Techniques

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Course content

Why Attend

Data-driven decision-making is now essential across all industries, from engineering and construction to business and technology. This course equips participants with advanced data analysis techniques to transform raw data into meaningful insights that support strategic and operational decisions. Participants will learn how to handle complex datasets, apply statistical and analytical methods, and use modern tools to identify trends, patterns, and performance indicators. By attending, you will significantly improve your ability to support evidence-based decisions, optimize processes, and enhance organizational performance.

Course Methodology

• This course combines conceptual explanations with hands-on practice using real-world datasets. Participants will engage in guided exercises, case studies, and problem-solving sessions. Practical demonstrations using analytical tools (such as Excel advanced functions, Power BI, or Python-based analysis concepts) will be included depending on the training level. Group discussions and scenario-based learning will help reinforce applied analytical thinking.

Course Objectives

- Understand advanced concepts in data analysis and interpretation
- Clean, structure, and prepare complex datasets for analysis
- Apply statistical methods for decision-making
- Identify trends, correlations, and patterns in data
- Use data visualization techniques to communicate insights effectively
- Apply predictive and descriptive analytics techniques

Target Audience

- Data Analysts and Business Analysts
- Engineers and Technical Professionals
- Project and Operations Managers
- Financial Analysts and Consultants

Course outline

Detailed course outline

Day-by-day outline for Advanced Data Analysis Techniques.

Day 1 - Foundations of Advanced Data Analysis

- Role of data analysis in decision-making
- Types of data and data structures
- Data lifecycle: collection, processing, analysis
- Introduction to descriptive and inferential analytics
- Overview of analytical tools and environments

Day 2 - Data Preparation and Transformation

- Data cleaning techniques and error handling
- Handling missing data and outliers
- Data normalization and transformation methods
- Data integration from multiple sources
- Building structured datasets for analysis

Day 3 - Statistical Analysis and Interpretation

- Descriptive statistics and summary measures
- Probability concepts in data analysis
- Correlation and regression analysis
- Hypothesis testing fundamentals
- Interpretation of statistical outputs

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Day 4 - Data Visualization and Insights

- Principles of effective data visualization
- Charts, dashboards, and reporting techniques
- Storytelling with data
- KPI tracking and performance dashboards
- Introduction to BI tools (e.g., Power BI concepts)

Day 5 - Predictive Analytics and Practical Applications

- Introduction to predictive modeling concepts
- Trend analysis and forecasting techniques
- Decision-making using analytical models
- Case studies from real-world industries
- Final project: end-to-end data analysis exercise

Seminar dates

Available seminar dates

Live dates and pricing for Advanced Data Analysis Techniques generated from the course details page.

Date	Location	Format	Fee
18 - 22 May 2026	Amsterdam	Classroom	€2,975
22 - 26 June 2026	London	Classroom	€2,940
13 - 17 July 2026	Munich	Classroom	€2,415
17 - 21 August 2026	Barcelona	Classroom	€2,695
21 - 25 September 2026	Rome	Classroom	€2,975
19 - 23 October 2026	Munich	Classroom	€2,415
2 - 6 November 2026	London	Classroom	€2,940

Live online option

Online delivery is available at €1,250.