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DATA MANAGEMENT AND BUSINESS INTELLIGENCE | DMBI-001

Advanced Data Analysis Techniques

UK
+44 33 000 111 90
info@informatech.co.uk
https://informatech.uk
63-66 Hatton Garden Hatton Garden
EC1N 8LE , London

NL
+31 85 74 444 46
info@infomatech.nl
https://infomatech.nl
Waarderweg 50 - 2031PB
Haarlem - Netherlands

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

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

- 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
- Improve reporting and business intelligence capabilities
- Support data-driven strategic decisions

Course content

Target Audience

- Data Analysts and Business Analysts
- Engineers and Technical Professionals
- Project and Operations Managers
- Financial Analysts and Consultants
- IT Professionals working with data systems
- Decision-makers seeking analytical skills

Target Competencies

- Data interpretation and critical thinking
- Statistical analysis and modeling
- Data cleaning and preparation
- Data visualization and reporting
- Analytical problem-solving
- Business intelligence understanding
- Decision support using data insights

Course outline

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

Course content

Course outline

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

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

Course content

Course outline

- 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
22 - 26 June 2026	London - U.K	Classroom	**€4,200.-**
13 - 17 July 2026	Munich - Germany	Classroom	**€3,450.-**
17 - 21 August 2026	Barcelona - Spain	Classroom	**€3,850.-**
21 - 25 September 2026	Rome - Italy	Classroom	**€4,250.-**
19 - 23 October 2026	Munich - Germany	Classroom	**€3,450.-**
2 - 6 November 2026	London - U.K	Classroom	**€4,200.-**
21 - 25 December 2026	Barcelona - Spain	Classroom	**€3,850.-**

Live online option	Online delivery is available at €1,850.-.