



DATA MANAGEMENT AND BUSINESS INTELLIGENCE | DMBI-012

# Foundations of Data and Models

## Regression Analytics

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# Course content

## Why Attend

Organizations today rely heavily on data to guide decisions, improve performance, and predict future outcomes. Understanding how to structure data and build reliable statistical models is a critical skill across all industries.

This course provides a strong foundation in data handling and regression modeling, enabling participants to interpret relationships between variables, build predictive models, and make evidence-based decisions using structured analytical methods.

## Course Methodology

This course is designed with a practical, hands-on approach:

- Step-by-step explanation of key statistical concepts
- Practical exercises using structured datasets
- Guided model building and interpretation sessions
- Interactive discussions to reinforce learning
- Focus on real-world analytical thinking and application

## Course Objectives

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

- Understand the fundamentals of data types and structures
- Apply basic statistical techniques for data analysis
- Build and interpret simple and multiple regression models
- Identify relationships between variables in datasets
- Evaluate model performance and accuracy
- Use regression outputs to support decision-making

# Course content

## Target Audience

This course is suitable for:

- Data Analysts and Junior Data Scientists
- Business Analysts
- Reporting and MIS Professionals
- Engineers and Technical Staff working with data
- Finance and Operations Professionals
- Anyone responsible for data interpretation and reporting

## Target Competencies

Participants will develop competencies in:

- Data interpretation and statistical reasoning
- Regression modeling (simple and multiple)
- Analytical problem-solving
- Data-driven decision-making
- Model evaluation and validation
- Structured thinking using quantitative methods

## Course outline

### Day 1: Introduction to Data and Statistical Foundations

- Understanding data types (categorical, numerical, structured)
- Data collection and preparation basics
- Descriptive statistics (mean, median, variance, etc.)
- Data visualization fundamentals

# Course content

## Course outline

- Correlation and relationship between variables
- Introduction to analytical thinking

### Day 2: Introduction to Regression Analysis

- Concept of regression modeling
- Simple linear regression
- Relationship between dependent and independent variables
- Interpreting slope and intercept
- Error terms and model fit
- Practical exercises using sample data

### Day 3: Multiple Regression Analysis

- Expanding to multiple variables
- Building multiple regression models
- Understanding coefficients and variable impact
- Multicollinearity concept (intro level)
- Model interpretation techniques
- Hands-on regression modeling practice

### Day 4: Model Evaluation and Performance

- Measuring model accuracy ( $R^2$  and error metrics)
- Residual analysis and interpretation
- Detecting model weaknesses
- Overfitting and underfitting concepts
- Improving model reliability

# Course content

## Course outline

- Basic validation techniques

### **Day 5: Practical Applications of Regression Modeling**

- Applying regression to real-world datasets
- Forecasting and prediction basics
- Using regression outputs for decision-making
- Common pitfalls in data analysis
- Best practices in reporting results
- Final practical exercise and review

# Seminar dates

## Available seminar dates

Live dates and pricing for Foundations of Data and Models Regression Analytics generated from the course details page.

Date	Location	Format	Fee
11 - 15 May 2026	Munich - Germany	Classroom	€3,450.-
8 - 12 June 2026	Amsterdam - Netherlands	Classroom	€4,250.-
6 - 10 July 2026	London - U.K	Classroom	€4,200.-
10 - 14 August 2026	Munich - Germany	Classroom	€3,450.-
14 - 18 September 2026	Vienna - Austria	Classroom	€4,250.-
5 - 9 October 2026	Barcelona - Spain	Classroom	€3,850.-
16 - 20 November 2026	Paris - France	Classroom	€4,500.-
7 - 11 December 2026	Munich - Germany	Classroom	€4,250.-
21 - 25 December 2026	Barcelona - Spain	Classroom	€4,250.-
15 - 19 June 2026	Munich - Germany	Classroom	€3,450.-
20 - 24 July 2026	Barcelona - Spain	Classroom	€3,850.-
3 - 7 August 2026	Amsterdam - Netherlands	Classroom	€4,250.-
7 - 11 September 2026	Rome - Italy	Classroom	€4,250.-
12 - 16 October 2026	Kuala Lumpur - Malaysia	Classroom	€2,250.-
9 - 13 November 2026	Barcelona - Spain	Classroom	€3,850.-
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