



Advanced Business Analytics and Predictive Modeling Training Course

18 – 22 October 2026
Chicago



Advanced Business Analytics and Predictive Modeling Training Course

Ref: 776_159043 **Date:** 18 – 22 October 2026 **Location:** Chicago **Fees:** 12000 Euro

Overview

Advanced Business Analytics and Predictive Modeling Training Course is a five-day advanced course for data analysts, business intelligence analysts, analytics engineers, business analysts, data scientists, and decision-support professionals who leave with an Advanced Analytics Decision Portfolio. Participants connect analytical problem framing, statistical inference, regression, classification, clustering, time-series forecasting, anomaly detection, optimization, model evaluation, interpretation, and decision recommendations. Agile Leaders Training Center develops practical advanced business analytics capability.

Who Should Attend

- Data analysis functions responsible for investigating patterns and testing business hypotheses
- Business intelligence functions responsible for extending reporting into predictive insight
- Analytics engineering functions responsible for reliable analytical datasets and workflows
- Business analysis functions responsible for framing decisions and interpreting evidence
- Data science functions responsible for model selection, evaluation, and explanation
- Decision-support functions responsible for comparing options and communicating recommendations

The course assumes participants can prepare tabular data, interpret summary statistics, and work with analytical outputs, and leaves out introductory spreadsheet skills, dashboard design, data-pipeline engineering, and certification exam preparation.

Departments and Industries

The course supports departments and industries that use analytical evidence to guide complex decisions.

- Banking risk and customer analytics
- Retail demand and commercial planning
- Healthcare operations analysis
- Manufacturing quality and process improvement
- Telecommunications customer and network insight

Learning Objectives

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



- Analyze business questions through an analytics decision frame
- Apply statistical inference and diagnostic methods
- Build and compare predictive modeling approaches
- Evaluate classification, clustering, and forecasting results
- Use anomaly detection and optimization for decisions
- Build an Advanced Analytics Decision Portfolio

Course Agenda

Day 1: Frame Advanced Analytics Decisions

- Analytics Decision Question Canvas
- Descriptive, Diagnostic, Predictive, and Prescriptive Map
- Analytical Unit and Outcome Definition Sheet
- Data Suitability and Leakage Checklist
- Decision Cost and Success Measure Register

Day 2: Diagnose Patterns and Relationships

- Statistical Distribution and Outlier Profile
- Sampling and Statistical Inference Framework
- Hypothesis Test Selection Matrix
- Correlation and Association Interpretation Guide
- Diagnostic Segmentation Evidence Table

Day 3: Build Predictive Models

- Regression Model Specification Template
- Classification Feature and Outcome Matrix
- Training and Validation Split Protocol
- Model Performance Comparison Scorecard
- Prediction Error and Residual Diagnostic

Day 4: Extend Analytics to Decisions

- Clustering and Segment Interpretation Method
- Time-Series Forecasting Workflow
- Anomaly Detection Threshold Framework
- Prescriptive Optimization Decision Model
- Model Interpretation and Assumption Register



Day 5: Practice Analytics Decision Support

- Exercise: Frame an Analytical Decision Question
- Exercise: Diagnose Patterns and Test Evidence
- Exercise: Compare Predictive Model Performance
- Exercise: Translate Forecasts and Optimization into Options
- Capstone: Advanced Analytics Decision Portfolio

Practical Exercises

The course uses suggested activities based on banking, retail, healthcare, manufacturing, and telecommunications decisions.

- Suggested activity: translate a business concern into an analytical unit, outcome, measure, and decision threshold.
- Suggested activity: investigate distributions, outliers, relationships, hypotheses, and segments without overstating evidence.
- Suggested activity: compare regression and classification models through validation evidence and decision costs.
- Suggested activity: combine forecasts, anomaly signals, optimization choices, assumptions, and recommendations in a decision portfolio.

FAQs

Who suits advanced business analytics and predictive modeling training, and what does it assume?

Data, business intelligence, analytics engineering, business analysis, data science, and decision-support functions suit the training; it assumes experience preparing tabular data and interpreting summary statistics.

How does advanced business analytics differ from introductory data analysis training?

Advanced business analytics evaluates statistical, predictive, and prescriptive methods for complex decisions, while introductory data analysis training focuses on basic preparation, summaries, charts, and straightforward interpretation.

How should analysts choose between regression and classification?

Analysts should choose regression when the outcome is continuous and classification when the outcome is a defined class, then test assumptions, validation evidence, error costs, interpretability, and intended decisions.



What makes predictive modeling evidence reliable?

Reliable predictive modeling evidence depends on suitable data, leakage prevention, representative validation, appropriate metrics, comparison with a baseline, error analysis, stable assumptions, transparent limitations, and decision relevance.

How do prescriptive analytics support business decisions?

Prescriptive analytics compare feasible actions under objectives and constraints, using forecasts, costs, risks, capacity, scenarios, and sensitivity analysis to present decision options rather than automatic certainty.

Conclusion

Participants take back an Advanced Analytics Decision Portfolio linking questions, data suitability, statistical evidence, models, validation, forecasts, anomalies, optimization, assumptions, and recommendations. It changes isolated analytical outputs into traceable decision support. The portfolio helps data, business intelligence, analytics, science, and management functions evaluate options through shared evidence.