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DATA MANAGEMENT AND BUSINESS INTELLIGENCE | DMBI-016

Data Science for Operational Excellence

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Course content

Why Attend

Why Attend Operational excellence depends on efficient processes, reliable decisions, continuous improvement, and the ability to respond quickly to change. Data science enables organizations to uncover inefficiencies, predict outcomes, optimize resources, and improve performance using evidence rather than assumptions. This course provides participants with practical tools to apply data science concepts, analytics techniques, and digital technologies to achieve stronger operational results.

Course Methodology This course uses an interactive and practical approach through presentations, case studies, analytics workshops, group discussions, dashboards exercises, process improvement activities, and real business examples.

Course Objectives

- Understand the relationship between data science and operational excellence
- Use data for smarter operational decision-making
- Improve data quality, governance, and reporting practices
- Apply analytics to optimize processes and workflows
- Use forecasting for planning capacity and resources
- Integrate Lean improvement with data-driven methods
- Build a sustainable culture of continuous improvement
- Align analytics initiatives with business strategy

Target Audience

- Operations Managers
- Process Improvement Professionals
- Business Analysts
- Supply Chain Managers



Course content

Target Audience

- Quality Managers
- Project Managers
- Anyone responsible for performance improvement and operations

Target Competencies

- Data Analysis
- Operational Excellence
- Process Optimisation
- Forecasting
- KPI Management
- Continuous Improvement
- Strategic Thinking
- Decision-Making

Course outline

Day 1: Foundations of Data Science and Operational Excellence

- Growth of data in modern organizations
- Principles of operational excellence
- Why data-driven decisions outperform intuition alone
- Sources of operational data: internal and external
- Descriptive, predictive, and prescriptive analytics overview
- Successes and failures of analytics in operations
- Key tools and technologies used in data science



Course content

Course outline

• Building a data-driven culture foundation

Day 2: Tools, Techniques, and Data Management

• Data collection, storage, and governance essentials

• Improving data accuracy, consistency, and timeliness

• Data visualization for operational clarity

• Introduction to analytics platforms and tools

• Dashboards for real-time operational monitoring

• Statistical methods for process control and improvement

• Managing large datasets and unstructured information

• Ethical and responsible use of data

Day 3: Applying Data Science to Process Optimisation

• Using data to identify bottlenecks and waste

• Combining Lean Six Sigma with analytics

• Predictive analytics for demand and resource planning

• Machine learning concepts for workflow optimisation

• KPIs for operational excellence

• Practical exercise: analyse an operations dataset

• Supply chain optimisation through analytics

• Designing a data-led improvement roadmap

Day 4: Driving Continuous Improvement with Analytics

• Embedding analytical thinking across departments

• Advanced analytics for risk management and resilience



Course content

Course outline

- Automation and AI opportunities in operations
- Presenting insights to decision-makers effectively
- Overcoming resistance to data adoption
- Building sustainable improvement systems
- Solving operational problems with data methods
- Reflection and workplace application planning

Day 5: Strategic Integration and Future Readiness

- Integrating data science into long-term operations strategy
- Aligning analytics with goals and performance targets
- Advanced forecasting for capacity, risk, and resources
- Scaling successful initiatives across business functions
- Governance for sustainable data-driven operations
- Continuous improvement through analytics maturity
- Final case study and action plan
- Course review and next steps



Seminar dates

Available seminar dates

Live dates and pricing for Data Science for Operational Excellence generated from the course details page.

Date	Location	Format	Fee
9 - 13 November 2026	Amsterdam - Netherlands	Classroom	**€3,400.-**
16 - 20 November 2026	London - U.K	Classroom	**€3,360.-**
7 - 11 December 2026	Kuala lumpur - Malaysia	Classroom	**€1,800.-**
14 - 18 December 2026	Amsterdam - Netherlands	Classroom	**€3,400.-**
21 - 25 December 2026	London - U.K	Classroom	**€3,360.-**
18 - 22 January 2027	Dubai - UAE	Classroom	**€4,200.-**
15 - 19 February 2027	Barcelona - Spain	Classroom	**€3,080.-**
15 - 19 March 2027	Kuala lumpur - Malaysia	Classroom	**€1,800.-**
19 - 23 April 2027	Geneva - Switzerland	Classroom	**€4,200.-**
17 - 21 May 2027	Barcelona - Spain	Classroom	**€3,080.-**
21 - 25 June 2027	Amsterdam - Netherlands	Classroom	**€3,400.-**
19 - 23 July 2027	Rome - Italy	Classroom	**€3,400.-**
16 - 20 August 2027	Barcelona - Spain	Classroom	**€3,080.-**
20 - 24 September 2027	Munich - Germany	Classroom	**€3,400.-**
18 - 22 October 2027	London - U.K	Classroom	**€3,360.-**
15 - 19 November 2027	Munich - Germany	Classroom	**€3,400.-**
20 - 24 December 2027	Madrid - Spain	Classroom	**€3,400.-**