



Data Science and Data Ethics for Business Professionals Course

22 February – 5 March 2027
Rome

Data Science and Data Ethics for Business Professionals Course

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Overview

Data Science and Data Ethics for Business Professionals Course is a two-week foundation-to-intermediate course for managers, analysts, data stewards, governance functions, and decision-makers who leave with a Responsible Business Data Science Decision Pack. Participants connect business problem framing and analytics workflows with model interpretation, bias and fairness, privacy, transparency, accountability, and responsible AI controls. Agile Leaders Training Center develops data science and data ethics capabilities.

Who Should Attend

- Business functions responsible for framing decisions, benefits, constraints, and evidence needs
- Analytics functions responsible for data preparation, analysis, model interpretation, and reporting
- Data stewardship functions responsible for quality, provenance, access, and permitted use
- Governance functions responsible for policies, accountability, risk review, and escalation
- Product and operations functions responsible for deploying data-supported decisions into processes
- Leadership functions responsible for oversight, stakeholder communication, and decision approval

The course assumes participants use data or analytical outputs at work, and leaves out advanced programming, production model engineering, legal advice, and certification.

Departments and Industries

The course supports departments and industries that use analytics to guide decisions affecting customers, employees, assets, services, or resources.

- Strategy, analytics, data offices, governance, risk, and internal audit
- Marketing, customer experience, sales, product, and digital operations
- Financial services, insurance, healthcare, education, and professional services
- Manufacturing, utilities, transport, logistics, retail, and hospitality
- Technology, telecommunications, public services, infrastructure, and nonprofit organizations

Learning Objectives

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



- Apply business problem-framing and data-suitability methods
- Analyze descriptive and predictive outputs for decision use
- Evaluate model interpretation, bias, fairness, privacy, and transparency
- Build accountability, risk, monitoring, and escalation controls
- Compare stakeholder impacts and responsible-use options
- Build a Responsible Business Data Science Decision Pack

Course Agenda

Day 1: Frame Business Data Science

- Business Decision and Evidence Canvas
- Problem Statement and Success-Criteria Template
- Data Science Lifecycle Map
- Stakeholder and Decision-Rights Matrix
- Analytics Assumption Register

Day 2: Assess Data Fitness

- Data Source Inventory Card
- Data Provenance and Lineage Diagram
- Data Quality Dimension Scorecard
- Sampling and Representation Review
- Permitted-Use and Access Checklist

Day 3: Build Business Analytics Workflows

- Descriptive Analytics Question Tree
- Segmentation and Cohort Analysis Grid
- Indicator Definition Sheet
- Correlation and Causation Challenge Card
- Analytics Workflow Control Map

Day 4: Interpret Predictive Models

- Prediction Target and Outcome Map
- Training, Validation, and Test Data Diagram
- Performance Metric Selection Matrix
- Model Interpretation Evidence Card
- Decision Threshold Tradeoff Table



Day 5: Examine Data Ethics

- Ethical Question-Framing Canvas
- Stakeholder Impact Assessment Map
- Benefits, Harms, and Rights Matrix
- Data Minimization Decision Card
- Human Oversight Design Checklist

Day 6: Evaluate Bias and Fairness

- Bias Source Taxonomy
- Representation Gap Analysis
- Fairness Criterion Comparison Table
- Disparate Outcome Review Card
- Bias Mitigation Option Register

Day 7: Design Transparency and Privacy

- Transparency Audience and Purpose Matrix
- Model Explanation Plan
- Data Notice Content Checklist
- Privacy Risk Scenario Map
- Decision Challenge and Redress Path

Day 8: Govern Responsible AI

- NIST AI RMF Govern-Map-Measure-Manage Map
- ISO/IEC 42001 AI Management System Context Card
- Responsible AI Accountability Matrix
- AI Risk and Control Register
- Third-Party Analytics Due-Diligence Checklist

Day 9: Monitor and Communicate Decisions

- Model and Decision Monitoring Dashboard
- Data and Model Change Log
- Incident Escalation Decision Tree
- Stakeholder Communication Brief
- Responsible-Use Review Meeting Template



Day 10: Practice Ethical Business Decisions

- Exercise: Frame a Customer Analytics Decision
- Exercise: Diagnose Data Fitness and Representation Gaps
- Exercise: Review Model Evidence and Fairness Tradeoffs
- Exercise: Design Governance, Monitoring, and Escalation Controls
- Capstone: Responsible Business Data Science Decision Pack

Practical Exercises

The course uses suggested activities based on customer segmentation, workforce planning, service demand, credit assessment, asset maintenance, and supply decisions.

- Suggested activity: frame a business decision, identify evidence needs, and test data suitability and assumptions.
- Suggested activity: interpret model outputs, compare performance measures, and document decision-threshold tradeoffs.
- Suggested activity: assess stakeholder impacts, representation, fairness, privacy, transparency, and human oversight.
- Suggested activity: build accountability, risk, monitoring, communication, challenge, and escalation controls.

FAQs

Who suits data science and data ethics for business professionals, and what does it assume?

Managers, analysts, stewards, governance functions, and decision-makers suit the course; it assumes routine use of data or analytical outputs rather than advanced programming expertise.

How does data science and data ethics for business differ from advanced machine-learning engineering?

Business data science and ethics focuses on framing decisions, interpreting evidence, assessing impacts, and governing use. Advanced machine-learning engineering focuses on coding, model architecture, pipelines, infrastructure, and production deployment.

How should business professionals assess bias and fairness in data science?

Business professionals should examine representation, measurement choices, labels, sampling, error distribution, affected groups, decision thresholds, stakeholder impacts, mitigation options, and monitoring evidence in the context of use.



What makes a data-science decision transparent and accountable?

A transparent and accountable decision identifies purpose, data sources, assumptions, model role, responsible owners, limitations, explanations, approvals, monitoring measures, challenge routes, and escalation actions.

How should responsible AI controls support business analytics?

Responsible AI controls should connect decision rights, risk assessment, data governance, human oversight, documentation, monitoring, incident response, and periodic review to the analytics lifecycle and its context.

Conclusion

Participants take back a Responsible Business Data Science Decision Pack containing problem canvases, data-fitness checks, interpretation cards, impact maps, fairness reviews, explanation plans, accountability matrices, risk registers, monitoring measures, and escalation paths. It changes analytics review from informal judgment to documented decision practice. The pack supports traceable choices, stakeholder communication, and responsible follow-through.