UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

## Data-Driven Organizations and Management

**2627-2-F9103Q005**

### Aims

The main aim of the course is for students to acquire an in-depth understanding of key concepts related to data-driven organisation and management. This includes foundational questions such as what an organisation is, why organisations matter, and how they function. The course also explores the concept of a data-driven organisation, examining its defining features, potential benefits, and implications for decision-making, structure, and culture.
Furthermore, the course aims to equip students with the analytical tools to critically assess the growing role of artificial intelligence in the workplace. Students will learn to understand and question how and why AI technologies are being integrated into organisational practices, what challenges and transformations they entail, and what ethical, managerial, and social considerations they raise.
In addition, the course seeks to develop students' ability to identify the structure of arguments and theoretical models, to formulate clear and critical objections, and to defend a reasoned position—possibly original—in order to communicate it effectively in both academic and professional settings.

### Contents

The course aims at introducing and discussing the essential features of organisations and organisational theory, with particular attention to the historical evolution and contemporary relevance of organisational forms in business, public administration, and the non-profit sector. It examines the concept of a data-driven organisation, its operational logic, and its implications for strategy, decision-making, and performance evaluation.
The course further addresses some of the main current challenges and approaches related to the integration of data analytics and artificial intelligence in organisational settings. Special attention is given to the use of algorithms in management, automated decision-making processes, and the emergence of hybrid human-AI systems in the workplace.
In addition, the course provides a critical overview of the organisational and ethical implications of datafication, including the risks of bias, surveillance, and deskilling. Case studies from both private and public sectors will be used to illustrate the interplay between digital technologies, managerial practices, and organisational change.

## Detailed program

**Module 1 – Understanding Organisations: Structures, Purposes, and Theories**
This module introduces the foundational concepts of organisational studies. It explores what organisations are, why they exist, and how they function in different sectors (public, private, non-profit). Attention is given to classical and contemporary organisational theories (Weber, Taylor, Simon, Mintzberg, institutional theory) and to the social, economic, and political roles organisations play. Students will also examine the impact of globalisation, digital transformation, and sustainability agendas on organisational forms and purposes.
Topics include:
• Definitions and types of organisations
• Organisational structures and cultures
• Organisational goals and legitimacy
• Theories of organisational behaviour and decision-making
• Introduction to organisational change and innovation

**Module 2 – What Makes an Organisation 'Data-Driven**'
This module focuses on the concept and practices of data-driven organisations. It examines how data is collected, structured, and used for decision-making, performance monitoring, and strategic planning. Students will learn how data analytics reshapes organisational roles, knowledge, and accountability. The module also introduces basic concepts in data infrastructure, data governance, and key performance indicators (KPIs), providing a critical perspective on the promises and limitations of data-driven management.
Topics include:
• Defining the data-driven organisation
• Data analytics and evidence-based management
• Data infrastructures and organisational routines
• KPIs and performance management
• Critical perspectives on metrics, datafication, and transparency

**Module 3 – Artificial Intelligence in the Workplace: Challenges and Opportunities**
This module explores the integration of AI technologies into organisational processes. It focuses on the impact of AI on work organisation, job design, management control, and decision-making. Case studies from various sectors will be analysed to highlight both the operational benefits and the ethical, social, and managerial challenges posed by AI systems. Topics such as algorithmic management, bias, explainability, and human-AI collaboration will be discussed in depth.
Topics include:
• AI applications in HR, logistics, marketing, and finance
• Algorithmic management and automated decision-making
• Surveillance, control, and employee autonomy
• Ethics and accountability in AI deployment
• The future of work and organisational transformation

## Prerequisites

There are no formal prerequisites for this course. However, a general familiarity with basic concepts in management, organisational studies, or social sciences will be beneficial. Students from diverse disciplinary backgrounds are welcome, provided they are open to engaging with both theoretical frameworks and empirical case studies.
An interest in contemporary debates about digital transformation, data analytics, and the role of artificial intelligence in society is recommended. No prior technical knowledge of data science or AI is required.
Teaching Form

The course combines a variety of teaching methods to foster both theoretical understanding and critical engagement. These include traditional lectures, interactive discussion sessions, and seminars. Students will participate in guided readings of key academic and professional texts, and attend guest lectures by invited experts from academia and industry.
In addition, the course includes project work that allows students to apply theoretical insights to practical cases, encouraging collaborative learning and independent research.

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## Textbook and teaching resource

There is no single required textbook for this course. Instead, a selection of key readings will be provided from a range of academic articles, book chapters, and policy reports. These readings will cover foundational theories of organisations, current debates on data-driven management, and the implications of artificial intelligence in the workplace.

Teaching materials will include:
• Selected academic articles from journals such as Organization Studies, Journal of Management Studies, Big Data & Society, and Work, Employment and Society
• Excerpts from books such as:
o Understanding Organizations by Charles Handy
o The Data-driven Organization - Using Data for the Success of Your Company, by Jonas Rashedi
o The Rise of the Data-Driven Organization by Tim O'Reilly (ed.)
o Algorithmic Management: The Future of Work in the Age of AI by Min Kyung Lee et al.
• Case studies from the Harvard Business School, OECD reports, and industry white papers
• Supplementary materials including podcasts, expert talks, and video documentaries
All required and recommended materials will be made available through the course platform or university library.

## Semester

First Semester

## Assessment method

Assessment will be continuous and based on active participation throughout the course. Students will be evaluated through a combination of short written assignments, case study analyses, and in-class presentations. Particular

emphasis will be placed on students' ability to engage critically with the course materials and to apply theoretical concepts to practical organisational contexts.

Frequent assessments will be conducted through group discussions and individual in-depth explorations developed during classroom sessions. These activities will encourage students to reflect on key issues and articulate their insights both orally and in writing.

A final written assignment or project presentation may also be required to demonstrate a comprehensive understanding of the course content and the ability to apply it to a concrete organisational scenario.

These assessment methods are specifically designed for attending students. Regular attendance is therefore strongly recommended, as participation in classroom activities represents an essential component of the assessment process.

For non-attending students, a dedicated reading list and detailed bibliographical guidelines for exam preparation will be provided at the end of the course.

For any questions or further information, please contact the lecturer at adriano.solidoro@unimib.it.

## Office hours

The instructor will be available for individual consultations before and after class sessions. Additional meetings can be arranged by appointment (write to adriano.solidoro@unimib.it). Students are encouraged to make use of office hours to discuss course materials, clarify assignments, or explore topics of interest in greater depth.

## Sustainable Development Goals

INDUSTRY, INNOVATION AND INFRASTRUCTURE