JÖNKÖPING UNIVERSITY
Jönköping International Business School

COURSE SYLLABUS

Data-driven Decision Making, 5 credits

Data-driven Decision Making, 5 högskolepoäng

Course Code:	J2DDMD	Education Cycle:	Second-cycle level
Confirmed:	Mar 25, 2026	Disciplinary domain:	Natural sciences (80%) and Technology (20%)
Valid From:	Aug 31, 2026	Subject group:	Informatics/Computer and Systems Sciences
		Specialised in:	A1N Second cycle, has only first-cycle course/s as entry requirements
		Main field of study:	Informatics

Intended Learning Outcomes (ILO)

On completion of the course you will be able to:

Knowledge and Understanding

1.1 Demonstrate current, advanced, and specialised knowledge (concepts, theories, frameworks) in the course content, applying and integrating this expertise to solve complex problems.

Skills and Abilities

2.2 Critically analyse complex issues using theories and data and justifying solutions with rigorous, evidence-based reasoning.

2.4 Critically assess the reliability of, and ethical implications arising from, the methods, tools, and techniques used to generate insights from data.

Judgement and Approach

5.2 Appraise relevant emerging trends and technologies to formulate strategies and decisions for applying innovations in practice or in advanced problem solving.

Content

In an increasingly data-saturated world, the ability to make sound decisions based on evidence is essential. Organisations across industries rely on professionals who can interpret data, manage uncertainty, and translate analysis into meaningful action. This course addresses the growing demand for decision-makers who combine analytical precision with strategic thinking. You will explore how data can inform choices in complex, real-world business environments, where stakes are high and information is often incomplete.

You will examine core principles of decision theory and learn how individuals and organisations make choices under uncertainty. The course introduces frameworks for structuring decision problems and selecting appropriate analytical approaches. You will work with both structured and unstructured data, gaining practical skills in data cleaning, organisation, and visualisation. Key methods include descriptive statistics and predictive modelling, guided by a responsible use of AI and applied through real-world examples from marketing, sales, supply chain management, and customer relationship management.

By the end of the course, you will be able to evaluate analytical outcomes, draw well-supported conclusions, and communicate recommendations with clarity and confidence. You will develop the ability to assess the quality of data and models, defend your decisions, and contribute to evidence-based strategies in professional settings. Whether you pursue a role in analytics, consulting, or management, this course will prepare you to engage critically with data and make informed decisions that create value.

Connection to Research

This course is closely connected to contemporary research in data analytics and decision science. It introduces you to key research methods used in data-driven decision-making, including statistical analysis, predictive modelling, and data interpretation. You will critically assess the assumptions, applicability, and ethical implications of analytical methods and tools in order to develop the ability to evaluate research-based evidence. Practical exercises and case analyses offer opportunities to apply research findings to complex business problems and reflect on the limitations of data and models. JIBS research on entrepreneurship, renewal, and ownership increasingly draws on data-driven approaches and advanced analytics. The course specifically offers insight into how these approaches support evidence-based decision-making in entrepreneurial and organisational contexts.

Connection to Practice

The course emphasises practical skills and application of data-driven decision making in organisational contexts. By working with examples and case material you gain relevant experience of how organisations use data and analytical tools. The course focuses on real-world situations where information may be incomplete, uncertain, or ambiguous. By working with such cases and datasets, you will develop the ability to evaluate analytical results, assess their limitations, and use data responsibly to support decision-making in professional settings.

Connection to Ethics, Responsibility, Sustainability (ERS)

Ethical and responsible use of data is an important dimension of data-driven decision-making. The course addresses ethical considerations related to the collection, analysis, and use of data, including issues such as data quality, bias in algorithms and models, transparency of analytical methods, and the responsible use of artificial intelligence in organisational decision processes.Throughout the course, you will examine how analytical choices can influence decisions and outcomes, and how limitations in data or models may create ethical risks or unintended consequences. ERS perspectives are integrated through discussions, analytical tasks, and case-based exercises in which you assess the ethical implications and broader societal impacts of data-driven decisions. This helps you develop the ability to use data and analytical tools in ways that are not only effective, but also responsible and mindful of their potential impact on organisations, individuals, and society.

Type of Instruction

The course is taught on campus through interactive lectures and applied sessions. Participation is fostered through engaging case-based learning, which emphasises autonomy and active reasoning, encouraging you to engage out of intellectual interest and perceived relevance.

Attendance is expected for scheduled on-campus sessions and may be compulsory for some sessions.

Language of instruction is English.

Entry Requirements

The applicant must hold at least a bachelor’s degree (equivalent to 180 ECTS credits from an accredited university) with a major in Business Adminstration or Economics, or the equivalent. Proof of English proficiency is also required.

Examination and Grades

The course is graded A, B, C, D, E, FX or F.

Individual written assignment (ILOs: 1.1, 2.2, 2.4, 5.2), representing 3 credits. You will write a data-driven case analysis, including recommendations for decision-making. This individually written assignment forms the basis for the subsequent oral examination.

Individual oral examination (ILOs: 1.1, 2.2, 2.4, 5.2), representing 2 credits. You will give a verbal defense and discuss the individual written assignment.

All parts of the compulsory examination in the course must receive a passing grade before a final grade can be set. Grades are set in accordance with JIBS grading policy.

Registration of examination:

Name of the Test	Value	Grading
Individual written assignment [1]	3 credits	A/B/C/D/E/FX/F
Individual oral examination	2 credits	G/U

[1] Determines the final grade of the course, which is issued only when all course units have been passed.

Course Evaluation

The course evaluation is important for the continuous improvement of JIBS' courses and degree programmes. The examiner is responsible for ensuring that each course is evaluated, but as a student you are essential in this process. We rely on your input to understand how we can improve. At the outset of a course the student representatives are identified. In the middle of the course there should be an opportunity for the student representatives (or a larger group of students) to share reflections on how the course is progressing. At the end of the course, you will get a course evaluation survey to fill in. The examiner will then host a debrief meeting with the student representatives to discuss improvement opportunities, based on the course evaluation data and comments.

Other Information

As a JIBS student, you are expected to maintain strong academic integrity. You must act within the boundaries of academic rules and expectations relating to all types of teaching and examination.

Copying someone else's work is a particularly serious offence and can lead to disciplinary action. When you use someone else's work without proper citation or transparency about where it came from, you are committing plagiarism. Cutting and pasting without clearly acknowledging the original source is a textbook example of plagiarism.

You must also act responsibly when using Generative AI tools. Acting responsibly includes staying informed about the school's AI-policy, understanding what rules apply in each course, and properly declaring or disclaiming any use of generative AI. You are accountable for all content you submit, including AI-assisted material. Using AI without disclosure or beyond what is allowed in a course is a violation of academic integrity and will be subject to the same academic consequences as other forms of misconduct, which may include failing the assignment, failing the course, or further disciplinary action according to school policy.

The Jönköping University library offers online and in-person support for assisting you in identifying relevant sources, using and referencing literature, and creating texts that meet academic standards and integrity.

Other forms of academic misconduct include (but are not limited to) adding your name to a project you did not contribute to (or allowing someone to add their name), cheating during an examination, helping other students to cheat or submitting other students' work as your own, and using non-allowed electronic equipment during an examination. All such actions may result in disciplinary measures.

Course Literature

Please note that the course literature may be revised up to eight weeks before the start of the course.

Will be announced at the beginning of the course.