ME2317 Artificial Intelligence and Management 6.0 credits

Artificiell intelligens och management

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

The official course syllabus is valid from the autumn semester 2025, according to the decision by the Faculty Board: M-2024-0018. Date of decision: 2024-10-14.

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Industrial Management

Specific prerequisites

Fulfilled the requirements for a Degree of Bachelor in technology, natural sciences or mathematics.

English B/English 6, or the equivalent.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student shall be able to:

1. Explain the theoretical foundations and historical development of artificial intelligence (AI) and machine learning,

2. Identify and apply AI techniques to specific business problems and identify relevant problem areas in industry, society and businesses where AI can create value,

3. Explain how AI can be integrated into companies' business strategies and analyse different processes for AI implementation,

4. Identify and discuss ethical considerations and analyse legal and regulatory aspects of AI to ensure ethically and legally sustainable AI applications,

5. Formulate an implementation strategy for an AI application customised to a specific business area.

Course contents

Artificial intelligence (AI) is transforming the world, helping organisations of all sizes to grow, innovate and make smarter decisions. This course aims to provide students with knowledge of the principles, tools and techniques that drive this transformation. The course provides an understanding of AI and machine learning and its applications in various business areas and industry sectors.

The course provides an introduction to AI and machine learning, focusing on techniques, theories and historical development. It emphasises the central role of data, from collection to analysis, and explores the potential of AI in business and industrial applications. The course analyses the strengths and weaknesses of AI and identifies specific problem areas where AI can be useful, both in industry and society.

Furthermore, the course addresses AI from a strategic business perspective, emphasising the integration of AI into business strategies, and balancing efficiency with adaptability. Ethical, legal and regulatory aspects of AI are discussed, as well as business risks. The course concludes with a practical case where participants identify suitable business areas for AI and implement a strategy to apply AI to specific problem areas.

The course consists of five modules:

1. Basic AI,

2. Business applications of AI,

3. Strategic AI,

4. Ethics, laws and regulations in relation to AI,

5. Implementation of an AI strategy.

Examination

- KON1 - Partial exam, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- INL1 - Assignment, 1.0 credits, grading scale: P, F
- PRO1 - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.