



School of Economics and Management

## **INFA45, Informatics: Artificial Intelligence in Business - Concepts, Applications and Challenges, 7.5 credits**

*Informatik: Artificiell intelligens i verksamheter - koncept, tillämpningar och  
utmaningar, 7,5 högskolepoäng*  
**First Cycle / Grundnivå**

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### **Details of approval**

The syllabus was approved by The Board of the Department of Informatics on 2023-06-07 and was last revised on 2024-09-18. The revised syllabus comes into effect 2024-09-18 and is valid from the spring semester 2025.

### **General information**

The course is optional within the Bachelor's Programme in Economy and Society. It is also given as a freestanding course.

*Language of instruction:* English

*Main field of  
study*

*Specialisation*

Informatics

G1N, First cycle, has only upper-secondary level entry requirements

### **Learning outcomes**

This first-cycle course introduces the student to the rapidly growing field of artificial intelligence (AI) and its application in business. Designed for students from different backgrounds without prior knowledge of AI, the course emphasises conceptual understanding of AI technologies and their potential for solving problems within organisations and creating value across industries. Throughout the course, the student will explore real case studies and learn to identify opportunities for AI implementation in different organisational contexts.

The course will include an understanding of data aspects relating to AI, such as determining the types of data needed for specific use cases and the importance of data quality in AI-driven decision-making processes. The course will also cover challenges and resistance toward AI that may arise from users and employees, along with the legal and ethical considerations connected to AI usage in business.

By the end of the course, the student will be equipped with the knowledge and skills necessary to critically assess AI-based solutions, understand data requirements for successful AI implementation and make informed decisions within the context of modern business settings while handling potential resistance and following legal and ethical guidelines.

### **Knowledge and understanding**

To pass the course, the student must demonstrate knowledge of and understanding of

- historical milestones, breakthroughs and challenges that have shaped the field of artificial intelligence
- basic concepts and terminology for artificial intelligence in an applied business context
- different AI techniques and methods, such as machine learning, natural language processing, generative AI and their usages for solving problems within organisations
- the importance of data quality and the types of data required for efficient AI implementation in different use cases
- potential challenges, resistance and ethical and legal considerations associated with AI usage in business

### **Competence and skills**

To pass the course, the student must demonstrate competence and skills individually or in groups to

- analyse organisational problems and identify opportunities for AI implementation considering the business context and industry-specific challenges
- develop proposals for AI-based solutions to solve identified organisational problems, taking into account available techniques and methods
- discuss and develop AI-driven initiatives to solve realistic organisational problems
- communicate the benefits, challenges and potential risks of AI solutions to various stakeholders, including management, employees and customers, and respond to concern and resistance

### **Judgement and approach**

To pass the course, the student must demonstrate the ability to

- weigh the potential benefits of AI solutions against their associated risks including technical, ethical and social issues, to make informed decisions on AI usage
- demonstrate a responsible attitude toward AI implementation by considering ethical and legal aspects, possible bias, fairness, sustainability and inclusiveness in AI-driven decision-making processes

## Course content

The course contains:

- artificial intelligence at the conceptual level
- applications of artificial intelligence in organisations
- considerations in the application of artificial intelligence

## Course design

The teaching consists of lectures, seminars, group-case and supervision.

## Assessment

The assessment is based on an on-campus written exam and a group case.

Re-examinations are offered in close conjunction with the first examination.

The test and course grades are determined by the course examiner. The examiner is entitled to change the grades given by the teachers on the course if this does not violate Chapter 6, Section 24 of the Higher Education Ordinance (1993:100).

*Academic misconduct* such as cheating, plagiarism, fabrication and falsification is considered a serious offence in higher education (see Chapter 10 of the Higher Education Ordinance). The disciplinary measures that may be taken as a result of such offences are caution or suspension for a limited period of time from the university (and all the faculties of the university).

### Examinations

- On-Campus Written Exam, 4.5 cr, grading scale: U-A, individual examination
- Case, 3.0 cr, grading scale: U-G, group examination

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## Grades

Grading scale includes the grades: U=Fail, E=Sufficient, D=Satisfactory, C=Good, B=Very Good, A=Excellent

**Grade (Definition) Points or percentage out of maximum points. Characteristic.**

**A** (Excellent) 85-100 points/percent. A distinguished result that is excellent with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**B** (Very good) 75-84 points/percent. A very good result with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**C** (Good) 65-74 points/percent. The result is of a good standard with regard to theoretical depth, practical relevance, analytical ability and independent thought and lives up to expectations.

**D** (Satisfactory) 55-64 points/percent. The result is of a satisfactory standard with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**E** (Sufficient) 50-54 points/percent. The result satisfies the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought, but not more.

**U** (Fail) 0-49 points/percent. The result does not meet the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought.

To pass the course, the student must have been awarded the grade of E or higher.

## **Grading rules and definitions**

### *Examination grades*

Examinations are graded according to the grading scale U-A or the grading scale U-G (Fail-Pass).

### *Course grade*

A passing grade on all examinations is required to pass the course.

1. For each examination with the grading scale U-A, the obtained points are multiplied by the number of credits for the examination. Grades without points are converted as follows: A = 92, B = 80, C = 70, D = 60, E = 52.
2. The products of the included examinations are summed up and divided by the total number of credits of the included examinations.
3. This results in a weighted average which determines the course grade. 85–100 gives the grade A, 75-84 gives the grade B, 65-74 gives the grade C, 55–64 gives the grade D, 50–54 gives the grade E.

Examinations with the grading scale U-G are not included in the calculation of the course grade.

## **Entry requirements**

General requirements and studies equivalent of course English 6 from Swedish Upper Secondary School.

## **Further information**

It is compulsory to attend the introduction meeting, where a roll call will be taken. Absence without notification means that the admitted student will lose their seat on the course.

If the course is discontinued, there may be limited opportunities for re-examination. Please contact the study advisor for information.