



**LUND**  
UNIVERSITY

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 to be valid from 2024-01-15, spring semester 2024.

## General Information

*Language of instruction:* English

*Main field of studies*

Informatics

*Depth of study relative to the degree requirements*

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

## Learning outcomes

This first-cycle course introduces students 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, their potential for solving problems within organisations and creating value across industries. Throughout the course, the students 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, students 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**

In order to pass the course, the student must be able to demonstrate knowledge 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**

In order to pass the course, the student must be able to 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**

In order to pass the course, the student must be able to 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.

The course includes compulsory components, which are stated in the schedule.

## Assessment

The assessment is based on an individually 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).

Cheating such as 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.

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.

*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## Grades

Marking scale: Fail, E, D, C, B, A.

**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.

**F** (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 students must have been awarded the grade of E or higher.

## Grading rules and definitions

Grades are awarded according to a graded scale from A (highest) to F (lowest), with E as the minimum passing grade.

When the exam/assignment is not graded, the grades G (Pass) or F (Fail) will be applied.

*Course grades*

When calculating course grades, the graded components will be weighted according to the following formula:

The number of credits for the exam is multiplied with the exam score. The total value is then divided by the total number of credits for the exams/assignments included. The resulting average is then rounded off to the nearest whole number. The number indicates the relevant course grade in accordance with the grading definitions above.

For exams/assignments which are graded and scored, the grades A to F will be used in accordance with the grading definitions above. The exam score will be used directly in the calculation.

For exams/assignments which are graded but not scored, the grades A to F will be used and converted as follows: A = 92, B = 80, C = 70, D = 60, E = 52.

Exams/assignments which are not graded but awarded with G (Pass) or F (Fail) will not be included in the calculation of the course grade.

## **Entry requirements**

General 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 his/her seat on the course.

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

## Subcourses in INFA45, Informatics: Artificial Intelligence in Business - Concepts, Applications and Challenges

Applies from V24

- 2401 Written exam, 4,5 hp  
Grading scale: Fail, E, D, C, B, A
- 2402 Case, 3,0 hp  
Grading scale: Fail, Pass