

School of Science and Technology

Introduction to Artificial Intelligence, 3 Credits

Course Code:	DT101U	Subject Area:	Field of Technology
Main Field of Study:	Computer Science	Credits:	3
Education Cycle:	Second Cycle	Subject Group (SCB):	Computer Science
Established:	2018-01-24	Progression:	AXX
Valid from:	Spring semester 2018	Last Approved:	2018-01-24
		Approved by:	Head of School

Aims and Objectives

General aims for second cycle education

Second-cycle courses and study programmes shall involve the acquisition of specialist knowledge, competence and skills in relation to first-cycle courses and study programmes, and in addition to the requirements for first-cycle courses and study programmes shall

- further develop the ability of students to integrate and make autonomous use of their knowledge
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable autonomy, or for research and development work.

(Higher Education Act, Chapter 1, Section 9)

Course Objectives

Knowledge and comprehension

After the completed course the student shall know and understand the principles and basic assumptions behind Artificial Intelligence, together with selecting and applying different intelligent algorithms.

Proficiency and ability

After completed course the student shall be able to model simple problems for the application of intelligent problem solving methods considering as well the problem context.

Values and attitude

After completed course the student shall be able to evaluate the potential and applicability of basic methods of Artificial Intelligence in a given industrial context as well as have an understanding for the possibilities and limitations of the different problem modelling approaches and algorithms.

Main Content of the Course

The course will cover the following topics:

- what is Artificial Intelligence?
- problem modelling and declarative approach to problem solving
- problem solving using uninformed or heuristic search
- heuristic optimization techniques and local search
- basic approaches to constraint satisfaction and intelligent planning
- semantic representation av information and knowledge, with basic reasoning
- applications of Artificial Intelligence
- ethical questions in relation Artificial Intelligence.

Teaching Methods

The course is given as a distance course with a few mandatory meetings on campus. It consists of a series of internet-based lectures, mandatory self-studies with given theoretical assignments as well as programming assignments and presentations of case-based application concepts in seminars.

Examination Methods

Exercises, 1.5 Credits. (Code: 0100)

Examination is done based on written reports on obligatory task assignments.

Presentation at seminar, 1.5 Credits. (Code: 0200)

Examination is based on oral presentation at seminar.

Grades

According to the Higher Education Ordinance, Chapter 6, Section 18, a grade is to be awarded on the completion of a course, unless otherwise prescribed by the university. The university may prescribe which grading system shall apply. The grade is to be determined by a teacher specifically appointed by the university (an examiner).

According to regulations on grading systems for first- and second-cycle education (vice-chancellor's decision 2010-10-19, reg. no. CF 12-540/2010), one of the following grades is to be used: fail, pass, or pass with distinction. The vice-chancellor or a person appointed by the vice-chancellor may decide on exceptions from this provision for a specific course, if there are special reasons.

Grades used on course are Fail (U) or Pass (G).

Exercises

Grades used are Fail (U) or Pass (G).

Presentation at seminar

Grades used are Fail (U) or Pass (G).

Other Provisions

The course is a contract education and is given in English.

Reading List and Other Teaching Materials

Required Reading

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Additions and Comments on the Reading List

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Course material will be provided by the teacher.