Artificial Intelligence - Principles and Techniques

Programme course

6 credits

Artificiell intelligens - principer och tekniker

TNM096

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science and Media Technology

Date determined
2017-01-25

Main field of study
Media Technology and Engineering

Course level
First cycle

Advancement level
G2X

Course offered for
- Media Technology and Engineering, M Sc in Engineering
- Computer Science, Master's programme

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Programming in imperative programming language (like Java or C++).
Knowledge of data structures and algorithms.

Intended learning outcomes
The aim of the course is to introduce the main concepts of artificial intelligence (AI) including techniques for problem solving, knowledge representation and reasoning, and learning. After the course the student will be able to

- explain and discuss artificial intelligence concepts
- apply well known artificial intelligence techniques.

Course content
Search as a problem-solving method. Knowledge representation and reasoning. Reasoning with incomplete information and probabilistic reasoning. Planning. Machine learning.

Teaching and working methods
The course consists of a series of lectures and laboratory work where different AI techniques are implemented using Java or C++.

Examination

LAB1	Laboratory work	6 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Other information

Supplementary courses:
Artificial Intelligence for Interactive Media

Department

Institutionen för teknik och naturvetenskap

Director of Studies or equivalent

Camilla Forsell

Examiner

Pierangelo Dell'Acqua

Education components

Preliminary scheduled hours: 34 h
Recommended self-study hours: 126 h

Course literature

Utdelat kursmaterial

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.