School of Computer Science and Communication, KTH
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2D1380 Artificial Intelligence, 4p (HT 2006)

for D3, DM(F4), PSYS(D4), TDATM1, TEOR(D4)

Lecturers

Course leader and lecturer: Patric Jensfelt
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Lecturer: Danica Kragic
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Office: Teknikringen 14 (meeting upon agreement), 7th floor

Course information

Please check the following page for updated information about the course.

`http://www.csc.kth.se/utbildning/kth/kurser/2D1380/ai06/`

Here you will find news, be able to download lecture notes, homework assignments, project instructions, etc. In short this is the place to look for all information.

Please refer to the course web page if you read from a printed copy of this document as it might be old. Information will be updated on the web but cannot, with today's technology, be transfered to old paper copies.

Course book

The following book will be used year 2006

- Artificial Intelligence: A Modern Approach (Second Edition)
  by Stuart J. Russell and Peter Norvig
  Prentice Hall (2003), ISBN 0-13790-395-2

Schedule

Lectures

The table below provides an overview of when and where the lectures will be given and what they will cover. **NOTE: the two last lectures are not yet scheduled. Please check course page for updated info for them.**

Date	Day	Time	Place	Lecturer	Topic	Chap.
Sep 5	Tue	10-12	Q2	Patric	Intro/Intelligent agents	1,2
Sep 6	Wed	13-15	E2	Patric	Search/Exploration	3,4
Sep 12	Tue	15-17	E2	Patric	CSP/Adversarial search	5,6
Sep 15	Fri	15-17	E2	Patric	Logic/First Order Logic	7,8
Sep 20	Wed	15-17	E2	Patric	Inf. in FOL / Know. Repr.	9,10
Sep 22	Fri	15-17	E2	Danica	Uncertainty	13-15
Sep 27	Wed	15-17	E2	Danica	Planning & Uncertainty	13-15
Sep 29	Fri	15-17	E2	Danica	Planning	11,12
Oct 4	Wed	15-17	E2	Patric	Decision making	16,17
Oct 6	Fri	15-17	E2	Patric	Communication/Language	22,23
Oct 4	Wed	17-19	E3	Patric	Perception & Robotics	24,25
Oct 6	Fri	17-19	E2	Patric	Wrapup & Exjobb proposals	

Homework assignments

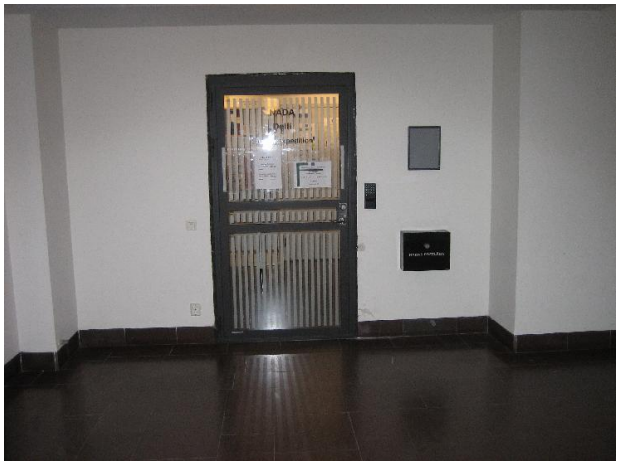
Homework assignments should be solved individually and handed in on paper. The homeworks will be handed out during lectures and will also be available on the course homepage for download. The homework should be handed in in the box labeled 2D1380 in the "Studentexpedition" at Osquars Backe 2. Just so that there will be no mistakes the door into the "Studentexpedition" is shown in Figure 1a and the box inside this door where the assignments should be handed in is circled in red in Figure 1b. The following table provides the list of dates when the homeworks are handed out and should be handed in.

Date	Day	Time	Spec
Sep 6	Wed	13:15	HW1 out
Sep 15	Fri	17:00	HW1 in
Sep 15	Fri	15:15	HW2 out
Sep 27	Wed	17:00	HW2 in
Sep 27	Wed	15:15	HW3 out
Oct 6	Fri	17:00	HW3 in

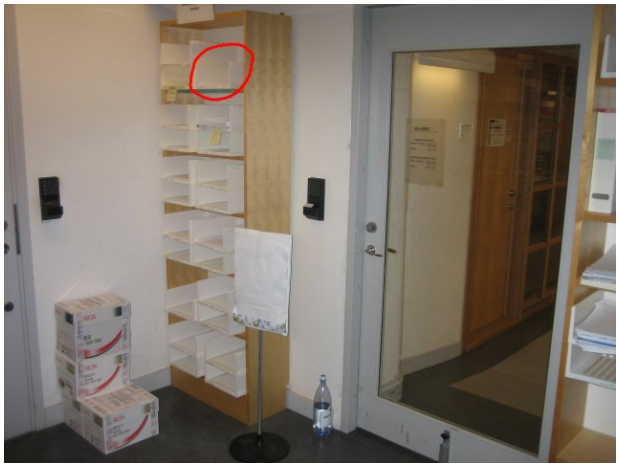
Project

As an alternative to a written exam students in groups of 4 should complete a project that will give them a change to apply knowledge that was acquired during the course. More information on the projects will be made available on the course home page.

The projects should be documented with a report that should be mailed in pdf format to patric@kth.se before 15:00 October 20 (Swedish timezone). Attched to this mail should also be



a)



b)

Figure 1: a) The door into the "Studentexpedition" b) Box to hand in assignments in

a copy of the source code for the project so that the implementation can be tested during the evaluation of the project.

Each project should be also presented to lectures at the end of the course. At this occasion the participants in a project should be ready to answer questions related to the project. Each group will be given a timeslot of about 30 minutes for the presentation and the discussion (15min + 15min).

Although the project is carried out in a group, individual members can be given different grades if it is clear that the work has not been distributed equally within the group.

The important dates for the projects are given below.

Date	Day	Time	Spec
Sep 20	Wed	17:00	Project groups formed
Oct 16	Mon	23:59	Project report due
TBD	TBD	TBD	Pres. of project

Help

The lecturers will be available for questions according to the table below. **Please note that this is a preliminary schedule and might therefore be subject to changes**.

Date	Time	Location
Sep 8	8-10	Room 304, 3rd floor, Teknikringen 14
Sep 13	8-10	Room 304, 3rd floor, Teknikringen 14
Sep 21	8-10	Room 304, 3rd floor, Teknikringen 14
Sep 25	14-16	Room 304, 3rd floor, Teknikringen 14
Oct 4	11-13	E35
Oct 17	14-16	Room 304, 3rd floor, Teknikringen 14

Aim

The aim of this course is to give a broad overview of the problems and methods studied in the field of artificial intelligence. After the course the students should be able to apply some of these methods and have basic understanding and know where to find more information on a large number of additional techniques.

The course also aims to provide the students with the opportunity to work both individually and in groups with problems of varying sizes. Students will also practice writing reports and making presentations.

Examination and prerequisite

To pass the course the students need to hand in homeworks and complete a project.

Deliverables

The list below summaries the deliverables. See above for when the deliverables are due and for more information about them.

- Homework 1 (individual)
- Homework 2 (individual)
- Homework 3 (individual)
- Project report in **pdf** format + source code (group of 4)
- Project presentation (group of 4)

Grades

Students will be given final grades U (fail), 3 (satisfactory), 4 (good) or 5 (very good) on the course. Each homework, handed in in time, will be given grades 0-5. Homeworks that are handed in too late or not at all will not be corrected and given an automatic grade 0. Projects will be given grades 0,3,4 or 5.

50% of the grades comes from the project and 50% from the homework. The grade is given by

$$0.5\frac{\sum_{i=1}^{3} Grade(HW_i)}{3} + 0.5Grade(project)$$

If the resulting grade is exactly between two level, the result on the project will determine the overall grade.

Hederskodex

Students shall honestly declare the work that he/she has done and what he/she has not done. It is dishonest to copy texts or programming code. In certain circumstances, however, it can be appropriate to quote a certain authority. The student shall then clearly indicate what is a quote and the author. At other times it can be appropriate to use a complete programme example, e.g.

from the course literature. Any student doing this must openly declare it. It is wrong to acquire a previously completed solution to an assignment but it is permissible to use some help when in difficulties. Such help shall be openly acknowledged.