

Course Staff

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C445 MIT-huset	C237 MIT-huset	E124 Humanisthuset
Mon, Thr 13 – 15	Tue, Fri 13 – 15	–

Course Topics

I Introduction (preface,ch1)

II Classical AI and Cognitive Science

1. Assumptions and Foundations (ch2)

2. A ‘crash course’ on the major AI techniques and their history (er1)

Search, Knowledge Representation, Planning, NLP, Learning, Robotics

3. Criticism (ch3)

III Embodied Cognitive Science

1. Fundamental concepts and outlook

2. The major techniques and approaches

a. Neural networks (ch5)

b. Braintenberg vehicles (ch6)

c. Subsumption architecture (ch7)

d. Artificial life (ch8)

e. Miscellaneous (ch9 (pg. 277-283))

3. Memory a case study

4. Evaluation and criticism

IV Philosophical Perspectives (er2,er3,er4)

V Future Directions

1. Modern AI and convergence of outlooks

Course Schedule

Week	Date	Time	Room	Topic (approx)	Note
36	Mon 31-Aug	10.15 - 12	MA146	I	
36	Thr 3-Sep	10.15 - 12	MA166	II.1	
37	Mon 7-Sep	10.15 - 12	MC313	II.2	
37	Thr 10-Sep	10.15 - 12	A208TEKN	II.3	
37	Thr 10-Sep	13.15 - 15	MC313	Group	
38	Mon 14-Sep	10.15 - 12	MA146	III.1	
38	Thr 17-Sep	10.15 - 12	MA156	III.2.a	#1 due
39	Mon 21-Sep	10.15 - 12	MC313	III.2.b	
39	Mon 21-Sep	13.15 - 15	A208TEKN	Group	
39	Thr 24-Sep	10.15 - 12	MA156	III.2.c	
40	Mon 28-Sep	10.15 - 12	MC313	III.2.d	
40	Thr 1-Oct	10.15 - 12	MC313	III.2.e	
40	Thr 1-Oct	13.15 - 15	MC313	Group	
41	Mon 5-Oct	10.15 - 12	MA166	III.3	
41	Thr 8-Oct	10.15 - 12	MA146	III.4	
42	Mon 12-Oct	10.15 - 12	N350	IV	Ebba
42	Mon 12-Oct	13.15 - 15	MC313	IV	Ebba
42	Thr 15-Oct	10.15 - 12	MA146	IV	Ebba
43	Mon 19-Oct	10.15 - 12	N350	V.1 + First Review	
43	Mon 19-Oct	13.15 - 15	MC313	Group	# 2 due
44	Mon 26-Oct	10.15 - 12	MC313	Final Review	
44	Wed 28-Oct	9 - 13	Skriksal 5	Exam 1	
44	Fri 30-Oct				#3 due
1	7-Jan	9 - 13	Skriksal 5	Exam 2	
14		9 - 13		Exam 3	

Course Readings

Textbook

Rolf Pfeifer and Christian Scheier *Understanding Intelligence* MIT press, 1999. ISBN 0-262-1681-8

Extra readings¹

- 1: Russel and Norvig, Chapter 3 (pp. 59-83) of AI: A modern approach, 2003
- 2: Crane. Computers and thought,Chapter 3 of The Mechanical Mind, 2003
- 3: Crane. Mechanisms of thought,Chapter 4 of The Mechanical Mind, 2003
- 4: Searl. Is the Brain's Mind a Computer? Scientific American, 1990

¹Given as hand-outs or download from course web-site.

Course Language

All lectures will be given in English and the exam must be written in English. While exercise reports may be written in either English or Swedish, the final exam must be written in English. For the final examination, it will be permitted to use an XX-English / English-XX dictionary, where XX is the language of the student's choice.

Grading System

There are three grades that you receive for this class: 1.) a *theory* grade (4.5 hp); 2.) a *practical* grade (3 hp); 3.) an *overall* grade. The theory grade is based on how many of 1000 points you are able to amass on the final exam²:

Total points (p)	Grade
$p \geq 800$	VG
$800 > p \geq 500$	G
$p < 500$	U

The practical grade for this course is pass (G)/fail (U) and is based on three obligatory assignments. Students may work in groups of up to two persons on these assignments. Full descriptions of these assignments will be handed out as the course proceeds. Groups shall receive a 'G' (satisfactory), 'K' ("come in") or an 'O' (not satisfactory) on obligatory assignments. A 'K' means that you must speak to the assistant about the assignment and convince them that you now understand some relevant aspect of the assignment. An 'O' means that you must improve the quality of your work and try again. To pass the practical portion of this course you must have achieved a 'G' on all three assignments³. The overall course grade will simply be your theory grade once you pass the practical section of the class.

²the final exam will be graded blindly; your identity will be unknown to the exam grader. You will have essentially three chances to pass the final exam. You may only re-take an exam if you have a failing theory grade (U).

³If you have not passed the practical portion of this course by November 22st, 2009, then you may have to wait until April 1st, 2010 to obtain feedback on any handed in material. If you have not passed all assignments by June 1st, 2010 then you will have to repeat the practical portion of this course.