CPMA 580 - Artificial Intelligence

Spring 2006

Dr. Donald Simon
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Text: *Artificial Intelligence: Structures and Strategies for Complex Problem Solving, Fifth Edition*, by George F. Luger

Course Objectives: This course is a survey of the area of artificial intelligence (AI). We will discuss what AI is, how it differs from traditional computer science. We will focus on various domains of AI, specifically, natural language processing, automated reasoning, vision, expert systems, and automated learning. In addition, we will study the common subproblems of these domains, such as knowledge acquisition and representation and search. The course will also cover neural nets. As part of the work in the course, students should expect to become proficient in the languages Lisp and Prolog.

Grading:	Assignments	25%
	Programs	30%
	Mid-term	20%
	Final	25%

Assignments will be due every other week when there is no programming assignment due. Assignments and programs are due at class time.

Grading Scale:

100-90 = A, 89-80 = B, 79-70 = C, 69-60 = D, below 60 = F.

Plus/minus grading will **not** be used.

Honor Policy: Students in this class fall under the mandate of the College of Liberal Arts plagiarism policy. Any student guilty of plagiarism will receive a grade of ``F" for the course and will be reported to the Student Committee. Work done in this course is to be by the individual, not a group. You may not share (copy, give, show) your homework with other students in the course.

Late Work: A homework or program assignment will lose 5 points per day that it is late. Homework assignments may not be turned in after they are discussed in class. Weekends are counted as one day. Programs are due at midnight of the due date and other homeworks are due at class time. **All programs and homework must be turned in by 4/27/06 at 2:00 pm. Work turned in after that time will not be accepted.**

Students with Disabilities: Students with documented disabilities are entitled to reasonable accommodations

if needed. If you need accommodations, please contact the Office of Freshman Development and Special Student Services in 309 Duquesne Union (412-396-6657) as soon as possible. Accommodations will not be granted retrospectively.

Tentative Schedule:

	Date	Topic(s)	Readings
1.	1/9	Introduction, Propositional Calculus	1,2.0-2.1, Proof rules
2.	1/23	Predicate Calculus	2.2-2.5
3.	1/30	Heuristic Search	3,4
4.	2/6	Knowledge Representation	7, Program #1 due
5.	2/13	Expert Systems	6,8
6.	2/20	Automated Reasoning	13
7.	2/27	Midterm: Prolog	15, Program #2 due
8.	3/13	Natural Language	5,14
9.	3/20	Machine Learning	10
10.	3/27	Neural Nets	11, Program #3 due
11.	4/3	Lisp	16
12.	4/12	Genetic Algorithms	12
13.	4/24	Speech, Vision	Handout
14.	4/25	Bayesian Belief Networks, Final handed out	9
	4/27	All homework due	
	5/1	Final due	

In additional to the readings from the book, there will be supplemental readings from the literature each week.

Last modified: Jan. 12, 2006

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