Syllabus for CIS 4930, Section 3
Intro. to Artificial Intelligence
Spring 2005

Meets: TR 3:30–4:45, PHY 120

Instructor: Jennifer Carlson

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Office Hours:	Monday 3:15-4:15pm, Thursday 11am-12pm, and by appointment

Text: Artificial Intelligence: A Modern Approach
S. Russel and P. Norwig
Prentice Hall, Second Edition
ISBN: 0137903952

Course Objectives: This course will provide an introduction to the field of Artificial Intelligence. By the end of this course students will have experience with the basic tools of AI including: search algorithms, decision trees, logic, and expert systems. Lectures will also introduce students to the following: knowledge representation, planning, handling uncertainty, reinforcement learning, and other advanced topics in AI.

Prerequisites: Data Structures (EEL 4851C) with a minimum grade of C. In addition, the students are expected to be familiar enough with C, C++, *or* Java to perform file I/O, create data structures, and perform similar operations without assistance from the instructor.

Homework: There will be seven homework assignments, five of which will include programming. For the programming assignments the students may use C, C++, or Java, whichever they prefer, but the program must run in a UNIX environment. All programming assignments will be checked for copying using a tool called Moss. For more information see `http://www.cs.berkeley.edu/~aiken/moss.html`. Coding assignments will be due by email 30 minutes before class (i.e. exactly 3:00pm) and written assignments will be due at the beginning of class (3:30 exactly) on the posted due date.

Project: There will be a programming project which will include a project proposal, demonstration for the instructor, and a five page paper. Students may work with at most *one* other student on the project. Again the students may use C, C++, or Java and the program must run in a UNIX environment.

Grading: The final average will be calculated as follows:

Homework	30%	
Mid-term Exam	15%	
Final Exam	35%	
Project	20%	(5% Proposal, 15% Project)

The grades will be assigned based on the final average as follows[1]:

Final Average	Grade
>90%	A
80-90%	B
70-80%	C
60-70%	D
<60%	F

Attendance and lateness policies: Attendance is not graded but is highly recommended as class lectures are not taken directly from the text book. Late work will not be accepted and test attendance is mandatory. Exceptional circumstances can be discussed with the instructor in advance of the due date, or scheduled test time. Students who anticipate the necessity of being absent from class due to the observation of a religious observance must provide notice of the date(s) to the instructor, in writing, by the second class meeting.

Academic honesty: Collaboration between students is permitted so long as only high-level concepts and ideas are exchanged. Sharing implementation details and solutions (including source code) is considered cheating and will be dealt with according to the CSE Policy regarding Academic Dishonesty. If a student is struggling with an assignment they are strongly encouraged to see the instructor. Depending on the circumstances, provisions like partial credit for late work or extensions on deadlines may be made.

Copies: Students not permitted to sell notes or tapes of class lectures.

Students with Disabilities: Students with disabilities are encouraged to consult the instructor as soon as possible. If accommodations are needed, a letter from the Office of Student Disability Services (SVC1133) will be required. Please inform the instructor if there is a need for alternate format for documents or a notetaker.

Calendar The calendar below lists a tentative schedule for the course including the topics covered, due dates, and test dates. *Notes* refers to additional supplemental materials given in class. An updated version of this calendar will be maintained at
`http://www.csee.usf.edu/~jcarlso1/teaching/ai/calendar.html`.

[1] Upward grade adjustments are possible if the overall average and distribution of the final class averages for the entire class indicate a need for such adjustments.

Date	Topic	Reading	Notes
Jan 11	Intro.	Ch. 1	HW 1 Posted
Jan 13	State Space	Ch. 3	
Jan 18	Search	Ch. 3	
Jan 20	Search	Ch. 3	
Jan 25	Search	Ch. 4	HW 2 Posted, HW 1 Due
Jan 27	Search	Ch. 4	
Feb 1	Search	Ch. 4	
Feb 3	Games	Ch. 6	HW 3 Posted, HW 2 Due
Feb 8	Games	Ch. 6	
Feb 10	Logic	Ch. 7	
Feb 15	Logic	Ch. 7	HW 4 Posted, HW 3 Due
Feb 17	Logic	Ch. 8	
Feb 22	Logic	Ch. 8	HW 5 Posted, HW 4 Due
Feb 24	Logic	Ch. 8	
Mar 1	Knowledge Rep.	Ch. 10 & Notes	HW 6 Posted, HW 5 Due
Mar 3	MID-TERM EXAM	Topics: Search, Games, and Logic	
Mar 8	Expert Systems	Notes	
Mar 10	Expert Systems	Notes	Proposals Due
Mar 15	Spring Break		
Mar 17	Spring Break		
Mar 22	Learning	Ch. 18	HW 7 Posted, HW 6 Due
Mar 24	Decision Trees	Ch. 18.3	
Mar 25	LAST DAY TO DROP		
Mar 29	Decision Trees	Ch. 18.3	
Mar 31	Neural Networks	Ch. 20.5	HW 7 Due
Apr 5	Neural Networks	Ch. 20.5	
Apr 7	Reinforcement Learning	Ch. 21	
Apr 12	Planning	Ch. 11	
Apr 14	Planning	Ch. 11,12	
Apr 19	Uncertainty	Ch. 13	
Apr 21	Uncertainty	Ch. 14	
Apr 25-29	Project Demos		
Apr 26	Fuzzy Logic	Ch. 14.7	Project Papers Due
Apr 28	Robotics	Notes	
Finals Week	FINAL EXAM	Cumulative	