

CSU520: Artificial Intelligence Spring 2008

Instructor: Professor Ron Williams

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Office Hours: Monday and Wednesday 1:30-2:30, or by appointment

Course web page: <http://www.ccs.neu.edu/home/rjw/csu520>

Textbook: *Artificial Intelligence: A Modern Approach, 2nd Edition*, by Stuart Russell and Peter Norvig, Prentice-Hall, 2003.

Content: This course introduces you to some of the techniques and issues in developing programs (agents) that act intelligently. The course will cover the general theory behind the techniques, and you will also gain additional familiarity with some of them by creating and/or working with Common Lisp programs that implement them. The specific topics covered in CSG120 are search, knowledge representation and manipulation using propositional and first-order logic, planning, Bayesian inference networks, and some basic machine learning techniques.

Prerequisites: Programming experience. The actual language is not critical. I will accept programming assignments in any language you find convenient to use, as long as they conform to good design and documentation practices. However, the programs I will use for demonstration purposes and will provide as the basis for some of the assignments will all be in Common Lisp, so you will probably find it convenient to learn and use it for your assignments as well. I plan to spend as much class time as necessary going over some of its basic features to help get you up to speed in it. There is also a link on the course page to a complete set of on-line documentation for Common Lisp.

Grading: Your overall grade for this course will be based on homework (35%), a midterm examination (25%), and a final examination (40%).

Homework: Homework assignments will be given out at the rate of approximately one every 2 weeks. Homework assignments must be turned in by the due date to receive full credit. Homework turned in up to 1 week late will be penalized 20%, and no homework will be accepted beyond 1 week past its due date.

Examinations: There will be a 1.5-hour midterm examination given during the class meeting time on Monday, February 25 and a 2-hour final examination during finals week.

Approximate Course Schedule:

Week of	Topic	Chapters
Jan. 7	Introduction	1, 2
	Problem Solving Through Search	3
Jan. 14	Informed Search	4
Jan. 21	Constraint Satisfaction	5
Jan. 28	Adversarial Search	6
Feb. 4	Propositional Logic	7
Feb. 11	First-Order Logic	8
Feb. 18	Inference in First-Order Logic	9
Feb. 25	<i>Midterm</i>	10
Mar. 3	<i>Spring Break</i>	
Mar. 10	Inference in First-Order Logic (cont.)	
Mar. 17	Planning	11, 12
Mar. 24	Uncertainty & Probabilistic Reasoning	13
Mar. 31	Bayesian Networks	14
Apr. 7	Learning From Observations	18
Apr. 14	Learning From Observations (cont.)	20