University of Illinois at Chicago
Spring 2017
CS 411 — Artificial Intelligence I
Course Syllabus

Room: BH317
Time: MWF 9:00 – 9:50
URL: via Blackboard / Piazza

Staff

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Office Hours: 10-11 MW

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TA's Office Hrs: ?-? ?? (SEO ??)

Office hours start from week 2 (Jan 16).

Course Objectives

The aim of this course is to introduce students to the field of Artificial Intelligence (AI). Specifically, the course will provide the theoretical foundations that underlie AI, and practice in building components of rational agents.

Textbooks (Required)

Stuart J. Russell and Peter Norvig. Artificial Intelligence — A Modern Approach. **Third Edition**. Prentice Hall, 2010. URL: http://aima.cs.berkeley.edu/

Prerequisites

CS 251

Notes

- I use email and Blackboard a lot to communicate with the whole class. Please check your email frequently, especially around deadlines (homework and exams).

- The web page on Blackboard will contain all materials relevant to the class, syllabus, assignments, lecture notes etc. You can also see you own grades.

Tentative Schedule

The week numbers refer to the teaching time, hence from 1-15. The spring break is excluded.

Date	Topic	Readings
Week 1	Introduction, Intelligent Agents	Ch. 1-2
(Jan 16)	**Martin Luther King, Jr., Day. No classes**	
Week 2-3	Problem Solving: Search	Ch. 3-4
Week 4-5	Problem Solving: Game Playing, Constraint Satisfaction	Ch. 5-6
Week 6-7	Logic and inference	Ch. 7-9
Week 8	Machine Learning	Ch. 18
Week 9	Quantifying Uncertainty	Ch. 13
Week 10-13	Probabilistic Reasoning	Ch. 14-17
Week 14	Learning Probabilistic Models	Ch. 20
Week 15	Natural Language Processing, Catch up, etc ...	Ch. 22-23

Some sessions are for recitation, depending on the progress.

Midterm and final exams

Date	Event
Friday of Week 6 (Feb 17)	**Midterm 1** (Ch. 1-6)
Friday of Week 11 (Mar 31)	**Midterm 2** (Ch. 7, 8, 9, 13, 18)
Final week (Week 16)	Final exam

Assignment 1: out: Sat of Week 3, due: Mon of Week 6 (Feb 13)

Assignment 2: out: Sat of Week 8, due: Mon of Week 11 (March 27). Three weeks due to spring break.

Assignment 3: out: Sat of Week 12, due: Sun of Week 14 (April 23, for return on Friday of the next week)

Grading Criteria

There are six (6) assessment components, each is worth 100 points (excluding bonus points), and contributes to your final score with a weight (percentage).

- **3 Assignments** (10% each): Each assignment will contribute 10% to your final score.

  Assignments will be a mix of pen-and-pencil and programming/implementation.

  For some assignments, we will use the code repository available on the book web site http://aima.cs.berkeley.edu/code.html.

  Homework will have to be submitted via Blackboard.

- **3 Exams:** 2 midterms (20% each), 1 final (30%).

  1. The two midterms will be given during class time; consequently, **no make-ups** will be given.
  2. Exams will be closed-book.
  3. The final is cumulative, with more emphasis on the last part of the class.

Suppose your scores of first and second mid-term exams are x_1 and x_2 respectively. Your final exam score is x_3. Your three assignments are y_1, y_2, y_3. Then your final score is

$S = 0.2*x_1 + 0.2*x_2 + 0.3*x_3 + 0.1*(y_1+y_2+y_3)$.

Assignments and exams have bonus points. As a result, each x_i and y_i may exceed 100 and so the final score S may exceed 100.

Conversion from final score to letter grade

The final conversion from score S to A/B/C/D/F is as follows:

A: 80 and above
B: 70 ~ 79
C: 60 ~ 69
D: 50 ~ 59
F: 0 ~ 49

If your letter grade is D or F, I reserve the right to upgrade it to C or D.

Important Note: To pass the class you must get at least 50% of the total available points for the three exams. That is:

$$50 \leq \frac{0.2 * x_1 + 0.2 * x_2 + 0.3 * x_3}{0.2 + 0.2 + 0.3}$$

That is, bonus points (making x_i above 100) are truly bonus, without being capped or scaled back to 100.

General Policies on homework and exams

1. Late homework will not be accepted in any case, unless there is a **documented** personal emergency. Arrangements must be made with the instructor as soon as possible after the emergency arises, preferably before the homework due date.

   Advice: If for whatever reason you don't manage to finish an assignment, hand in what you have. Partial credit may be given at the grader's discretion.

2. Statute of Limitations: **Three weeks!** No grading questions or complaints — **no matter how justified** — will be listened to **three** weeks after the item in question has been returned.

Policy on Academic Integrity

Academic dishonesty will not be tolerated. Please see the CS department policy below on the topic; this policy specifies penalties for violations.

What is academic dishonesty? To hand in any work which is not 100% the student's creation, unless you are explicitly allowed to do so. Thus:

1. **Exams.** All work on all exams must be individually performed.

2. **Homework:** no student may give any other student any portion of their solutions or code, through any means. Students are not allowed to help each other debug the code, or to show each other any portions of code or homework.

Important Note: almost every semester somebody is caught red-handed and as a consequence fails the class. Isn't it better to get a B or a C than an F?

CS department policy on academic dishonesty

The CS Department will not tolerate cheating by its students. The MINIMUM penalty for any student found cheating will be to receive an F for the course and to have the event recorded in a department and/or College record. The maximum penalty will be expulsion from the University.

Cheating includes all the following, though this is not a complete list:

- Copying or any other form of getting or giving assistance from another student during any test, quiz, exam, midterm, etc.

- Plagiarism–turning in writing that is copied from some other source.

- Obtaining solutions to homework by posting to the Internet for assistance, purchasing assistance, obtaining copies of solutions manuals for instructors, and obtaining copies of previous year's homework solutions.

- Computer programs: Any time you look at another student's code, it is cheating. (Exception: If you are EXPLICITLY told that you may do so by the instructor.)

For computer programs, if for some reason we cannot determine who copied from whom, we may, at our discretion, give failing grades to both students.

It is the responsibility of all engineering and computer science professionals to safeguard their company's "trade secrets." An employee who allows trade secrets to be obtained by competitors will almost certainly be fired. So, YOU are responsible for making sure that your directories have permissions set so that only you can read your files, for being sure to log out at the end of working in the computer lab, etc.