

Computer Science 141: Introduction to Artificial Intelligence

Lecture location: CIT 227

Lecture hours: T., Th. 10:30 - 11:50 AM

Instructor: Meinolf Sellmann (sello@cs.brown.edu), CIT333, x37655

Head Teaching Assistant: Tim St. Clair (tstclair@cs.brown.edu)

TA: Adam Conrad (aconrad@cs.brown.edu)

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Texts: *Artificial Intelligence: A Modern Approach (2nd edition)* by Russell & Norvig. This will be used extensively. *The Elements of Statistical Learning* by Hastie, Tibshirani & Friedman is also recommended.

Homework

There will be weekly homework assignments which will be a mix of both problem sets and programming assignments. Please strive to make your solutions clear and concise. A set of homework guidelines has been provided, and you are expected to follow them.

Homework problems are broken into three categories: review problems are very similar to problems seen in class, reasoning problems are on topics covered in class but may require you to apply them differently, and look ahead problems are there to get you thinking about topics that will be covered in class. These three categories will be considered when your final grade is determined.

Typeset solutions (especially using L^AT_EX) are strongly encouraged. Handwritten solutions are acceptable, but if the TAs cannot read a solution, they cannot give it any credit. Homework will generally be assigned every Tuesday and due the following Monday by 5:00 PM.

Late assignments will not be accepted without explicit *prior* permission from the instructor. Homework must be submitted into the correct bin in the hand-in location (in the hallway outside CIT 271, on the second floor near the main entrance).

Graded homework will be returned to the hand-back bin in CIT 271, and in the weekly review sessions the “(New) Fishbowl.”

You must hand in all but two homeworks to pass. Also, any homework not handed in on time will receive a grade of zero.

Corrections to errors in homework will be sent to the course mailing list, which you are expected to check daily for corrections and other announcements.

Projects

There will be five programming projects throughout the semester, going out roughly every two weeks. Projects will be due at 5:pm on Mondays (the same time as homeworks) unless otherwise stated.

Build files will be handed out with each project. To simplify the grading process, all projects must compile on CIT computers with the provided files.

Weekly Review Section

Weekly review sessions will be held by Tim St. Clair. These sessions are for the students, and therefore are very flexible to fit students needs from week to week. Possible uses of this time include review of the weeks material, going over the previous homework, or working out practice problems. If you have specific questions / requests, you should email the TAs before the section. You can also bring your questions to section, but chances are you will get a better response if you let the tas know ahead of time. Note that these sections are not the same as hours, and students with homework or project specific questions should take their questions to hours instead.

These sections are not required, but attendance is strongly recommended. A specific day/time is yet to be decided, but will likely be Wednesday or Thursday evenings.

Collaboration Policy

You must hand in joint work (either homeworks or projects) with at least 4 different people in the class. On joint homework, each student is expected to contribute to the final write up, even though only one hand in is required. Joint homeworks and projects are limited to groups of two people.

On all homework, students are encouraged to discuss solutions together. Students are not explicitly forbidden from working out problems together, but every assignment a student turns in must be his or her own. Students may choose which homework assignments they wish to do jointly.

On projects, students who are not working together on a joint handin may discuss the concepts of the problem, but should not take any notes from the discussion. They may point out possible sources of bugs in other

students' code, but should not correct the bug. It is never acceptable to copy or share code except between collaborating project partners.

There is no collaboration on exams. The honor code will be strictly enforced. If you need help with a specific homework problem, or any concept in general, please see one of the TAs or the professor on hours.

Exams

There will be a midterm and a final exam.

Grading

The final grade will *approximately* be determined as follows, but terrible performance in any of these areas will jeopardize your grade:

- 10% participation
- 25% homework
- 25% projects
- 15% midterm
- 25% final

Please note that your final grade is not strictly computed from these percentages, and will be determined by the staff.

Missing two or more projects will be grounds for automatic failure, regardless of performance on other assignments.

Course Comments

Throughout the course, you are encouraged to leave comments on the course to be read by the course's future TA staff. By sending your commendations and complaints to them, you will contribute the course quality experienced by those that come after you. In order to make comments, use `/contrib/bin/course-comment`.

Tentative Course Schedule

- Blind Search
- Informed Search

- Optimization
- Local Search
- Satisfiability
- Propositional Logic
- Predicate Logic
- Markov Models and Reinforcement Learning
- Learning
- Decision Trees
- Guest Lectures
- Review and Final Examination