This course is an introductory survey of artificial intelligence (AI). The course will cover the history, theory, and computational methods of artificial intelligence. Basic concepts include representation of knowledge and computational methods for reasoning.

1 Quick Reference

Piazza: https://piazza.com/tufts/spring2017/comp131/home


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Prerequisites: Data Structures (COMP 15) and either Discrete Mathematics (COMP/MATH 61) or familiarity with both symbolic logic and basic probability theory.

2 Course Goals

By the end of the semester, students should be able to

1. identify the major classical and modern AI paradigms, and explain how they relate to each other
2. analyze the structure of a given problem such that they can choose an appropriate paradigm in which to frame that problem
3. implement a wide variety of both classical and modern AI algorithms.

3 Homework and Exams

Homework: Homework will be assigned regularly in the course. These will typically take one of the following three forms:

- **Weekly reading assignments** in which students will be asked to read a section from the textbook. Students should expect to be quizzed on the assigned passage at the beginning of the next class. These quizzes will be issued on an average of once a week, and will be graded on a pass/fail basis.

- **Weekly written assignments** in which students will be asked to solve a small number of provided problems. If your handwriting is *very* legible or if you are required to draw diagrams, you may hand-write and scan your assignments. Otherwise, please type your responses. Written assignments will be submitted electronically using "provide", and will usually be due at 11:30 PM on the due date.
• Bi-Weekly coding assignments in which students will be asked to complete unimplemented sections of provided scaffolding code. These will primarily be in C++, but at least one or two will be in Prolog. These will be submitted via “provide” and will usually be due at 11:30 PM on the due date.

Late Homework: Because of the size of the class and the amount of homework 20% of the total number of points for the assignment will be deducted per weekday for written assignments and per calendar day for programming assignments. No homework will be accepted after one week. Two exceptions will be made to this policy:

1. If serious illness prevents you from completing a homework assignment on time, you should report your illness using the “Illness Notification Form” available at http://uss.tufts.edu/registrar/Webcenter.asp, after which alternate arrangements can be made. Illnesses of this severity must be reported /before the assignment in question is due.

2. Under extreme circumstances (e.g., family emergencies and bereavements) you may ask your associate dean for undergraduate education to contact us, after which alternative arrangements can be made. Such arrangements with your dean must be made before the assignment in question is due.

Exams: It is hoped that this course can be graded 100% on homework, but the instructor reserves the right to give exams if there is a significant case of academic dishonesty. In that case, there will be in-class exams in March and April, and a cumulative final during the regularly scheduled exam period. Exams are closed book and no electronic devices are allowed, but one 8.5 x 11 sheet of paper with notes on both sides can be brought to in-class exams and two such sheets for the final.

Grade Calculation: Ideally, the course will be graded entirely based on the homework assignments and quizzes, with homeworks worth varying amounts based on estimated difficulty.

If no tests are given, homeworks will count for 90% of the course grade, and quizzes will count for 10%.
If there is a significant case of academic dishonesty, then exams will count for 50% of the course grade, homework for 45%, and quizzes for 5%. If there is a final it will count as two in-class exams.

4 Course Procedures

Communication: We will be using Piazza for class discussion. This system is designed for getting help quickly and easily from classmates, the TA, and the instructors. Rather than emailing questions to the teaching staff, we encourage you to post your questions on Piazza. All course announcements will also be made through Piazza, so please check it frequently. You are also encouraged to help each other, so long as they follow the guidelines listed below:

• If your question contains any code or gives away any portion of an answer, you must make it private (i.e., only visible to instructors) or we will be forced to report it as a violation of academic integrity.

• If your question does not contain any code or contain any portion of answer to a homework question, please make it public, so that other students can see your question, and potentially help you answer it.

• In order to schedule office hours outside the posted times, post a private question on Piazza.

• Your homework must be entirely your own work. While you may discuss homework verbally with others, all work must be done yourself, and you must not show each other your written homework assignments or code. This is a violation of academic integrity.

• On your assignments, please acknowledge, in writing, students with whom you discussed problems or course material.

Electronic Devices Policy: Research has demonstrated that the use of electronic devices (e.g., laptops, tablets, cellphones) significantly impairs the learning of students using them. What is more, the learning of students seated near students using electronic devices is impaired. For these reasons, no electronic devices will be allowed in the classroom. An exception may be made in the case of a disability, if the student approaches the instructor beforehand and an arrangement is agreed to.
Academic Integrity: Academic integrity is taken very seriously. While plagiarism may be the worst violation of academic integrity (and as such we may examine your work for plagiarism using automated heuristics), we are required to report any suspected violation of academic integrity to the University’s Judicial Officer. As described in Tufts’ brochure on academic integrity (http://uss.tufts.edu/studentaffairs/documents/HandbookAcademicIntegrity.pdf), penalties for violation can be very severe, including suspension or expulsion from Tufts. If any student does not understand these terms or any outlined in The Academic Code of Conduct it is his/her responsibility to talk to the instructor.

Similar to your interactions on Piazza, you are free to discuss homework assignments with other students *so long as it happens in English (or some other natural language)* and not on paper. Under no circumstances should you permit another student to view your code or homework solutions, or allow yourself to view another student’s code or homework solution. This especially includes testing and debugging code. If you do discuss homework exercises or course material with other students through natural language, you must acknowledge on your assignment those students with whom you discussed said exercises or course material, as well as give citations for any print or electronic references. You do not need to acknowledge course staff, the web site, or the course text. All code and problem solutions written for this class are the property of the course staff, who reserve all rights regarding such code and/or solutions. The course staff reserves the right, for example, to regularly pass your code and homework responses through online plagiarism checking services.

Additional Resources:
Tufts University values the diversity of our students, staff, and faculty, and recognizes the important contribution each student makes to our unique community. Tufts is committed to providing equal access and support to all qualified students through the provision of reasonable accommodations so that each student may fully participate in the Tufts experience. If you have a disability that requires reasonable accommodations, please contact the Student Accessibility Services office at Accessibility@tufts.edu or 617-627-4539 to make an appointment with an SAS representative to determine appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for this provision.

Tufts and the teaching staff of COMP 131 strive to create a learning environment that is welcoming to students of all backgrounds. If you feel unwelcome for any reason let us know (i.e., tell Tom Williams or Andy Valenti) so that we can work to make things better. If you feel uncomfortable talking to members of the teaching staff, consider reaching out to your academic advisor, department chair, or dean.

Feedback: Your thoughts and concerns on this course are important. You are encouraged to give feedback to the instructor throughout the term. As always students will be asked to fill out a course evaluation at the end of the term.