Syllabus for Artificial Intelligence
Spring 2017

Course Goals

In this course, you will be introduced to various topics from the broad field of Artificial Intelligence (AI). While it is not possible to cover all subfields of AI in one semester, we will cover the following topics: search, adversarial games, probabilistic models, machine learning (supervised and unsupervised), and ethical/philosophical issues in AI. In addition to a firm understanding of these topics, this course also seeks to provide you with an awareness of the state of research in this field as well as the current challenges.

Administrative Details

Instructor: Professor Chambers (alchambers@pugetsound.edu, Thompson 405)

Office Hours: MW 2:00pm – 3:30pm, Thur 1:15pm – 2:45pm or by appointment.

Other Availability: You're more than welcome to stop by if my door is open. I'm not available on Tuesdays and I don't respond to emails at night or on Saturdays.

Course Time and Place: MWF 12 – 12:50 pm in Thompson 374

Course webpage: `http://mathcs.pugetsound.edu/~alchambers/cs431`

Textbook: Stuart Russell and Peter Norvig. Artificial Intelligence: A Modern Approach. 3rd Edition. (Required)

Course Breakdown

Grading: Grades in the course are based on four components:

50%	Assignments
20%	Midterm Exams (2)
25%	Final project
5%	Class attendance

Readings: Each class period will have a corresponding reading assignment taken from the textbook. *It is imperative that you do the reading for this course.* Many confusions and difficulties can be resolved by doing the reading. I recommend that you at least skim the reading before coming to class so you can make effective use of class time. The readings for each class are posted on the course webpage under "Lectures".

Homework Assignments: There will be (approximately) 6 homework assignments in this course. Assignments will be a mixture of written questions and programming questions. We will use the Java programming language. Unless otherwise specified, it is understood that each assignment is to be completed individually. See below for the late policy.

Tests: There will be two in-class midterm exams. Details will be given closer to the exam dates.

Final Project: During the last month of the semester, you will complete a final project (in groups of 2-3). You will propose a project in the area of your choice related to something we covered in the course. After your proposal is approved, you will implement your solution, write a final paper in which you document your solution and relate it to literature in that field, and finally present your work to the class. Final projects will be presented during our scheduled final exam time of May 12th, 2017. Please do not buy your plane tickets until after the exam.

Academic Accommodations

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Student Accessibility and Accommodations, Howarth 105, pperno@pugetsound.edu, 253.879.3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Course Policies and Conduct

Late Policy

Late homework assignments will be penalized by $3^n\%$ for $n \leq 4$ where n is the number of days the assignment is submitted late. The only extensions[1] given are for unexpected medical or family emergencies. In the case of an emergency, I will ask you to talk with the Dean of Student's Office. This preserves your privacy and allows you to coordinate not just with me, but with all your professors.

In-Class Policies

Laptops and cell phones are not allowed in class. I have found that students with open laptops and cell phones are a distraction to themselves and others. Please leave your cell phone in your backpack (or don't bring it). If you have an accommodation in which you require a laptop, please let me know.

Prepare yourself to be in class and attentive for the full 50 minutes. Students getting up and leaving in the middle of class are a distraction both to the other students who are trying to learn and to me as I endeavor to use those 50 minutes effectively. In particular, this means you should fill your water bottles and use the restroom before coming to class. If you do need to leave class, you do not need to ask permission – quietly get up and go.

Academic Honesty

For all assignments (written or programming), any work submitted must represent the work of you (and your partner if relevant) only. Accordingly, you should not look at another student's solutions, or solutions posted on the internet. Solutions should not be written out on a board or passed around on a sheet of paper. In terms of code, you should never read or copy another student's code, exchange computer files, share your code or solutions, use code from the internet or past students. In general, you should not hand in work done by someone else under your own name(s). Most instances of academic dishonesty are clear cut and students know when they have violated the rules.

One confusing situation for students is knowing if it's okay to ask another student for help. Students may ask for help and give help for specific problems. When someone asks you for help, you should follow these rules:

[1] An extension is when a student is allowed to turn in an assignment after the due date with no penalty

- Never show another student your code. Instead, you should look at their code and only with the intention of helping. As a general rule, no student should look at another student's code for their own benefit.
- Similarly, never show or give another student your writeup. Instead, you should discuss the problem together and try to ask helpful questions and give useful advice.

Any help given must be limited to the immediate problem. Two students sitting side-by-side and working through an assignment step-by-step together will certainly produce work that will be considered illegal collaboration.

Failure to abide by these rules is considered plagiarism. The first offense typically results in failure in the course. Please read the University of Puget Sound's Academic Integrity policy (`http://www.pugetsound.edu/student-life/personal-safety/student-handbook/academic-handbook/academic-integrity/`) for further information. (Note: This policy is an adaptation of the academic honesty policy used in the CS department at Pomona College).

How To Be Successful

Students are often interested in how they can do well in a course. Success is almost always a matter of time management and lifestyle, not "natural intelligence". The following are tips that can help you to be successful in this course (and others):

- Get organized
  - Get a planner and write down the things you need to do along with their due dates.
  - Make a (realistic) hourly schedule for your week.
  - Go to sleep at a reasonable time and get a full night's rest.
- In-Class
  - Always try to solve any in-class exercises.
  - If your group is not helpful, find another group.
  - Take complete and organized notes that will be helpful for studying later.
- Homework
  - Homework always takes longer than expected. Start the homework as soon as it's posted and allot more time than you think you need.
  - Break large assignments into smaller easily-achievable steps.
- Studying
  - Find a place free from distraction where you can focus. Turn off your phone while studying.
  - Keep up with the assigned reading.
  - Don't get behind by more than a week.