Syllabus for COMP364, Artificial Intelligence

Fall 2020 Dickinson College

Instructor: Michael Skalak

**Goals**

1. Understand, implement and experiment with several of the fundamental techniques used by computers to exhibit some aspects of intelligence
2. Understand the basic philosophical and ethical issues relating to artificial intelligence
3. Strengthen skills for implementing and analyzing algorithms
4. Strengthen skills for reading, analyzing and presenting the contents of scientific literature
5. Strengthen skills for conducting and presenting original scientific research

**Teaching methods**

1. required reading in advance of most lectures
2. lectures and class discussions covering textbook contents and other material
3. in-class mini-labs using computers to experiment with concepts covered in lectures
4. programming projects
5. presentation on a published scientific paper
6. self-directed research on a major final project
7. exams to reinforce understanding of concepts

**Office hours:** <https://forms.gle/cxT4s4PUFrkpCdkb8>

**Zoom**: see Moodle

Note that all lectures will be recorded and available on Moodle.

**Book**

Artificial Intelligence: A Modern Approach (Third edition) by Stuart Russell and Peter Norvig, 2009 Publisher: Prentice Hall ISBN: 0136042597

**Assessment and grading**

Final grade will comprise:

1. Midterm exams (2 x 15% each) 30%
2. Programming assignments (4 x 10% each) 40%
3. Presentation of a published paper 10%
4. Final project 20%

**Exams**: There will be two midterm exams, given on moodle. Exams are open note. Students may consult any printed or handwritten material. Most exam questions will be similar to the sample exam questions provided on the course webpages. Effectively, these exams are extended problem sets. These sample exam questions should be regarded as compulsory but ungraded homework, to be done immediately after the class in which they are provided.

**Programming assignments**: There will be 4 programming assignments, due at the start of class on the dates given in the accompanying schedule. Programming assignments may be done in pairs or individually.

**Paper presentation**: Students will read, conduct background research on, and present the contents of a paper of their choice, selected from those published at the AAAI 2020 conference. Presentations will take place on the first week of November. Paper presentations must be done in pairs.

**Final project**: Students will undertake a project on a topic of their own choosing. The project will involve original research or experimentation, substantial programming, a formal write-up, and a presentation in the final exam slot. Final projects must be done in pairs.

Final scores will be converted to grades according to the following thresholds (or possibly more generous thresholds): 93%=A; 90%=A-; 87%=B+; 83%=B; ... ; 60%=D-.

**Amount of work**

College policy recommends approximately 3 hours of independent work for every hour of class time. Our class meets for 2.5 hours per week. Therefore, you should expect to spend 7-9 hours per week (outside of class time) on this course.

**Plagiarism, copying, and collaborating**

The College's standard policy on plagiarism applies and you should be familiar with it, but here are some key points that apply particularly to this course:

1. All work must be your own.
2. Never copy work from someone else or allow your own work to be copied.
3. You may not copy or consult assignment solutions from any source, including online repositories or solutions provided for previous instances of the course. Exception: you may consult solutions provided for this instance of the course, after they have been posted to Moodle.
4. If you use exact words taken from any source, you must use quotation marks and cite the source.
5. Students are encouraged to help each other understand concepts, including concepts that apply to graded assignments. However, all work must still be your own. So if you discuss a problem with someone, you must destroy any written or electronic material that results from the discussion, and re-create it later on your own.
6. Be especially careful not to copy computer code from another student, or from the Internet. Sharing or copying computer code is easy and often tempting, but it is not permitted and will suffer the same penalties as any other form of cheating. It is permitted to copy small snippets of code from online sources or from the course website, but the extent and origin of any copied snippet must be described clearly using comments in the source code.

**Accommodating Students with Disabilities**

Dickinson values diverse types of learners and is committed to ensuring that each student is afforded equitable access to participate in all learning experiences. If you have (or think you may have) a learning difference or a disability – including a mental health, medical, or physical impairment – that would hinder your access to learning or demonstrating knowledge in this class, please contact Access and Disability Services (ADS).  They will confidentially explain the accommodation request process and the type of documentation that Dean and Director Marni Jones will need to determine your eligibility for reasonable accommodations. To learn more about available supports, go to [www.dickinson.edu/ADS](http://www.dickinson.edu/ADS) or email [access@dickinson.edu](mailto:access@dickinson.edu).

If you’ve already been granted accommodations at Dickinson, please follow the guidance at [www.dickinson.edu/AccessPlan](http://www.dickinson.edu/AccessPlan) for disclosing the accommodations for which you are eligible and scheduling a meeting with me as soon as possible so that we can discuss your accommodations and finalize your Access Plan.

**Late Work Policy**

Each student is permitted a total of four no-penalty days of lateness over the entire semester; every subsequent day of lateness incurs up to a 25% penalty for the late assignment. Late days can be used only in whole day units. Keep track of your own usage of late days. To use one or more late days on a given assignment, state clearly at the start of your submission how many days you are using, and the total used so far in the semester. Late days cannot be used for presentations. For group assignments, late days are applied to all members of the group.

Note: Much of this class is based on the AI class offered Fall 2016 by Prof. John MacCormick.