CS 420: Artificial Intelligence, Fall 2011

AEC 500
3:10-4:00 MWF
http://cs.lafayette.edu/~taylorm/cs203
Office hours: Monday 1:00-2:00, Friday 11:00-12:00, and by appointment

Dr. Matthew Taylor ("Matt" is preferred)
Office: AEC 522
Email: taylorm@lafayette.edu (Please tag emails with **[CS420]** for fastest response)
Office phone: 610-330-5417

This course is a survey in the field of artificial intelligence. Key concepts include search, probabilistic reasoning, planning, and learning. Policies in this syllabus are subject to revision, with notice. Policies in the syllabus, as well as the course schedule, are subject to change *with notice*.

Prerequisites
CS 202 and CS 205
You must be able to write non-trivial (i.e., more than 5 pages long) programs.
Python will be used in the class, but previous exposure is not required.

Course Objectives
- Provide students familiarity with a selection of AI problems and solution techniques
- Describe the limitations of current AI algorithms
- Implement and test multiple approaches to a complex problem
- Discuss different heuristic approaches and their applicability

ABET Outcomes
After the course, students should have:
- An ability to apply knowledge of computing and mathematics appropriate to the discipline

Course Outcomes
After the course, students should have:
- An ability to analyze a complex problem and determine if an existing algorithm can be used to find a solution
- Understand how to compare and evaluate AI algorithms
- Implement an AI algorithm from a high-level description
- Design and evaluate heuristics for a novel algorithm

Course Schedule
An evolving schedule, along with assignments and lecture slides, may be found on the course webpage.
Midterm: Friday, October 21st
Final: There will be a final – wait for the date to be announced by the registrar before scheduling any trips!

Assessment Information and Grading Policy
The course grade (subject to change with notice) will be based on:
- 10% class participation / reading responses,
- 30% from projects/labs,
- 30% midterm, and
- 30% final.

Attendance is strongly encouraged --- if you are not in class, you cannot participate in the discussion. Please make every effort to arrive on time, but I'd rather have you come in late than miss the class altogether!

Reading assignments will be announced in class and posted on the course webpage. *For every class that has a reading assignment, a reading response must be emailed to the professor by 6pm the day before the class*. There may be specific questions that I ask you to answer in an assignment, if not, please follow the following guidelines: Responses may contain:

- reflections on the reading,
- questions the reading generates,
- and/or summaries of the reading.

Unless otherwise stated, I expect responses to be ½ to 1 page in length and should not take you longer than 20 minutes to write. The responses will help the instructor shape the upcoming class but they will not be individually graded.

To be determined: I may require responses to be posted to Moodle to encourage on-line discussions.

With the exception of reading responses, late work will be accepted, but the grade will be reduced by 10% for every day that it is late (i.e., if a project is handed in 1 hour late and it is graded as 85/100, the student will receive 75/100).

Email

I expect to answer student email within 48 hours, unless it is the weekend. Feel free to ping me if it has been more than two working days and I have not responded. To make sure your mail gets filtered correctly (i.e., gets my attention), please begin emails with a subject of:
[CS420]

Phones/laptops/i-Things during lecture

You may use electronics to take notes and/or look up information in class. However, please make sure your device is silent. Penalties for electronic noise in class include singing a couple of bars of a song in front of the class and leading class a discussion during the next lecture.

Note that these devices also present temptations that many students find irresistible. You should not use your devices to play a game, check Facebook, respond to email, etc. Such activities not only distract you, but (more importantly) they may distract others around you.

Academic Honesty Statement

All students are expected to adhere to the college policy on academic honesty as listed in the Student Handbook. Homework will be done individually unless otherwise specified in writing on the assignment. You are allowed to discuss projects and labs with other students but may not share code. *Any work that is not fully done by an individual must list all collaborators.*

Request for Accommodations

In compliance with Lafayette College policy and equal access laws, I am available to discuss appropriate academic accommodations that any students with a disability require. Requests for academic accommodations need to be made during the first two weeks of the semester, except in unusual circumstances, so that arrangements can be made. Students must register with the Office of the Dean of the College for disability verifications and for determinations of reasonable academic accommodations.

Required Reading

Artificial Intelligence: A Modern Approach, by Russell and Norvig, 3rd edition. ISBN-10: 0136042597
(should also be on reserve in the library)