Course Syllabus

Artificial Intelligence -- CS4200 (Summer 2024)

Dr. Daisy Tang

Email: **ftang@cpp.edu (mailto:ftang@cpp.edu)**

Office Hours: appointments by emails only. Your emails will be answered in 24 hours.

Class Website: Canvas

Special note: This summer course is 5-wk in length in an asynchronous mode. It's very short compared to regular semesters. You are expected to spend approximately **26-30 hours** per week to study the course materials and work on the in-class exercises and projects. If you have any questions, the best way is to reach out to me through emails. We can set up Zoom appointments at appropriate time or just go over the questions in the email. Your emails will be answered within 24 hours.

Class Format:

- Asynchronous, no required course meetings dates and times.
- All lectures (videos and slides) will be posted on Canvas by the first day of the class. Lectures are organized in modules. Each module is about one week's work. To successfully complete the course, you should complete one module every week.
- In-class exercises will be assigned within each module. You should pause the video and complete the exercises and resume later when necessary. Exercises should be turned in on canvas once you are done with the module. Please note that your exercises will not be graded, but participation points will be given for turning them in on time (by the end of each week/module).
- Three programming projects will be assigned on canvas with the deadlines. Late submission will incur penalty. No late submission on the final project.
- Exams will be available on the specific dates of the exams (accessible for 2 hours only on the exam day). Any rescheduling of exams needs to have a valid reason and needs to be requested 24 hours ahead of time.

Course Description:

- **Catalog Description**: Overview of the different application areas of AI. Introduction to the basic AI concepts and techniques such as heuristic search, knowledge representation, automated reasoning. In-depth discussion of several AI application areas: their specific problems, tools and techniques.
- **Expected Outcomes**: Comprehend the goals and ramifications of Artificial Intelligence; design and implement appropriate search methods for different types of applications; be familiar with different approaches to knowledge representation and knowledge manipulation in the search for solutions to complex problems.

Required Materials:

- **Textbook:** *Artificial Intelligence: A Modern Approach*, 3rd Edition, by Russell and Norvig, Prentice Hall, 2010.
- **Technology:** Computer with Internet access, word, powerpoint, and pdf printer (to convert files to pdf format).
- **Software:** Java or C++, or Python IDE.

Prerequisites: CS 2400 with a grade C or better, or consent of instructor.

Communication:

- Email me at **ftang@cpp.edu (mailto:ftang@cpp.edu)**
- Make additional zoom appointment through email.
- Responses are expected to be within 24 hours. Please follow up if you don't hear back from me within 24 hours.
- Reminder emails and announcements on Canvas. Your cpp.edu email is the official method of communication. Check email daily.
- Canvas discussion board.

Evaluation:

Grading will be based on the following components:

In-class exercises:	15%
Midterm:	25%
Cumulative final:	30%

Projects: 30%

- 90 and above = A; 88-89 = A-; 85-87 = B+; 80-84 = B; 78-79 = B-; 75-77 = C+;

70-74 = C; etc.

- All exams will be via Canvas. They will be open book and open notes. No collaboration is allowed.

Schedule/Important Dates:

- Midterm: 6/17/2024 (Monday), to be completed by 11pm on that day.
- Cumulative final: 7/1/2024 (Monday), to be completed by 11pm on that day.
- For other schedule and project due dates, please check Canvas.

Class Policies and Support:

- Collaboration policy: Discussing and exchanging ideas is encouraged. You may help each other with your strategy for how to solve a problem. However, copying from outside sources (e.g., other students, Internet, etc.) on any material to be graded is not permitted and will be considered cheating. Cheating may result in failure of the assignment/exam and/or failure of the class. The University's policy on Academic Integrity will be enforced.

- Exams: Unless otherwise specified by the instructor, only the final exam will be comprehensive, covering material from the entire course. The rescheduling of exams must be arranged at least one day in advance. Exams missed without prior permission will be given a grade of zero.

- Projects: Assignments will be posted on canvas with the corresponding deadline. No late submission will be accepted for the last project assignment. Other late submission for projects will incur a penalty of 5 points per day, including weekends.

- Grading correction: Bring any homework/project or exam grading correction requests to the instructor within 2 days of receiving the grade, or before the end of the semester, whichever comes first. After that, your grade will not be adjusted. If you find a mistake in grading, please let the instructor know. Your grade will not be lowered.

- Announcement responsibility: Important announcements, schedule revisions, etc., will be posted on canvas. You are responsible for information on the canvas course website.

- Email policy: Please make sure that you check your **username@cpp.edu (mailto:username@cpp.edu)** account on a daily basis and I will not be responsible for any delay in your email. If you send email to me, please be sure to include your name, username and the course number in the body of the e-mail. You should also use an appropriate subject line. Failure to follow this guideline may result in delayed response.

- Privacy and security for our class: I will post video lectures on Cal Poly Pomona's secure video streaming server and provide the links only on Canvas. I will also provide the lecture slides. All materials posted on canvas are accessible to members of this class only. Please do not screen-capture and share the materials elsewhere.

- Student access: Cal Poly Pomona is committed to student success. Students with disabilities are encouraged to contact the instructor privately or the Disability Resource Center (909-869-3333, Building 9-103) to coordinate course accommodations.

What you can expect from me?

I will do my best to make this course an excellent learning experience for you, even remotely – well-organized with meaningful assignments and the support you need to succeed. Due to the fact that this is asynchronous, I will miss the opportunity to get instant feedback from you. I encourage you to use the discussion board or chat on canvas for discussion. I will take suggestions for improving the learning environment seriously. I'll do my best to grade your work fairly and in a timely manner.

How to be successful in this class?

- Be mindful of your weekly effort. This course is designed based on a 5-wk schedule, which is much fast-paced than your regular semester. You need to at least triple your weekly efforts compared with a regular semester. The learning activities in this class are carefully selected and paced to help you learn step by step.

- Do not procrastinate. There are deadlines associated with each module and project assignment. Please do not wait until the last day to start on the modules and projects.
- Digital interaction. If you have any course related question, please let me know asap. Since we are remote, you will need to exercise more personal initiative than if we were meeting face to face. You can connect with me individually through email or zoom. You can also connect with me or the rest of the class on our canvas discussion board. You can email me to make a zoom appointment, please include your availability and the general question in the email.

Tentative Course Schedule

Topics may be adjusted as we go. Exam dates will not change**.**

Week/Module	**Dates**	**Topics**	**Assignments**
1	5/29 to 6/2	Introduction, Intelligent Agent	
2	6/3 to 6/9	Uninformed Search	Project 1 assigned; due on 6/12/24
		Informed Search	
3	6/10 to 6/16	Local Search	Project 2 assigned; due on 6/19/24
		Constraint Satisfaction Problem	
4	6/17 to 6/23	Adversarial Search	Project 3 assigned; due on 6/28/24
		Logical Agent	
5	6/24 to 6/30	First-Order Logic	
		Planning	
	6/17 (Mon.)	**Midterm**	
	7/1 (Mon.)	**Final**	