

CPSC390: Artificial Intelligence

Spring 2020

Course Syllabus

General Information

Instructor: Dr. Erik Linstead (linstead@chapman.edu)

Lecture: (Section 1) Tuesday/Thursday 11:30am-12:45pm. Argyros Forum 207.

Office Hours: Tuesday/Thursday 3:00pm-4:15pm. Hashinger 217.

Course Description

(Prerequisite: CPSC 350) Students study the tools, techniques, and applications of artificial intelligence. Students will be introduced to the programming techniques utilized in artificial intelligence applications. CPSC390 is a 3-credit course.

Course Learning Outcomes

By the end of the semester students will have mastered the following AI concepts:

1. Agent-based frameworks
2. Optimized search
3. Constraint Satisfaction and Propagation
4. Declarative knowledge bases
5. Logic-based planning
6. Optimal policy learning

Program Learning Outcomes

The Chapman experience creates outcomes which are consistent with our identity. Similar to the General Education program, each degree program, or major, at Chapman has a unique set of learning outcomes, or student abilities that are not only related to Chapman's institutional mission and goals, but also unique to the student's discipline or field of study. For more information, see the [Fowler School of Engineering Program Learning Outcomes](#).

Overview

CPSC 390 is an undergraduate level artificial intelligence (AI) course designed to introduce students to the basic tools and techniques of the discipline. As such, the course is designed to provide wide coverage of topics of the AI domain, as opposed to covering any one topic in great depth. For this semester, some of the topics covered will be search techniques, constraint propagation, logic, planning, reasoning under uncertainty, and machine learning. If time allows, we may cover more advanced topics such as situation calculus and natural language processing. This course is appropriate for all students who want to learn the fundamentals of AI, and especially those students interested in game programming or grad school.

Required Text

Artificial Intelligence: A Modern Approach, 3rd edition, by Stuart Russell and Peter Norvig. Pearson, 2010.

Course Materials

All course materials will be made available via the course site on [Blackboard](#) when possible. Blackboard will also be used for submitting assignments, viewing grades, etc.

Course Grade Breakdown

Letter grades in the class will be assigned according to the following breakdown:

<i>Grade</i>	<i>Letter Grade</i>
93+	A
90-92.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9/73-76.9/70-72.9	C+/C/C-
67-69.9/63-66.9/60-62.9	D+/D/D-
<60	F

You must score a 70 or above to receive a P when taking the course P/NP.

Assignments

Homework assignments (about 1 every 2-3 weeks) will consist of problem sets and short programming assignments intended to reinforce the material covered in lectures and reading assignments. All programming must be done in C++, Java, or Python unless otherwise specified. Feel free to develop with whatever IDE or platform you like, but make sure your code runs the way you want it to from a Linux command line.

Homework assignments will typically be due exactly 1 week from the day they are assigned at 11:59 PM. Assignments must be submitted electronically via Blackboard. No late assignments will be accepted. Assignments will be checked for completeness but not graded for correctness. They are intended to prepare you for the in-class and final exams, and so the more you put into them the more you will get out of them.

Late Policy

For CPSC390, no late work will be accepted.

Participation

It is expected that students attend every lecture. Participation in these sessions (asking questions, responding to my questions) will contribute to the final course grade.

Exams

There will also be two in-class exams and a final exam, which must be taken on the dates specified. NO MAKEUP EXAMS WILL BE ADMINISTERED.

Project

In addition to homework assignments, the last 2/3 of the semester will also focus on a large project incorporating various AI techniques.

Grading Percentages Breakdown:

Attendance/Participation	5 %
Homeworks	10 %
Course Project	15%
In-class Exam 1	17.5 %
In-class Exam 2	17.5 %
Final Exam	35 %

Final Exam Time

Section 01: Thursday, May 21: 8:00am-10:30am

Collaboration Policy

You have much to learn from your colleagues, and so I encourage you to discuss and study course material together. However, all work you submit for this course must be your own, and must be completed individually unless otherwise specified. More specifically, you may not present source code or programs copied from the Internet, other texts, other students, etc. as your own work. Of course, you are free to use whatever *reference* materials you like, but please cite them in a README turned in with your assignments. A README is a .txt document with a list of all reference materials used to aid in the assignment as well as names of other classmates you collaborated with. I assume you are familiar with Chapman's policy on academic misconduct, it is presented below and any incidents of academic misconduct or dishonesty will be dealt with severely in accordance with this policy.

Expectations and Technology Use

I expect that everyone will maintain a classroom conducive to learning. I like an informal atmosphere, but it must be orderly. Thus, everyone is expected to behave with basic politeness, civility, and respect for others. In particular, talking in class is okay if it's part of a class discussion or with me. Private communications are not permitted, especially during exams. Neither are reading extraneous materials, using electronic equipment off task, or sleeping. As this is a Computer Science class, technology is allowed to aid in learning and understanding material. However, please do not use a personal device for any purpose unrelated to our class. All devices should be silenced. Cell phones should be put away. Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention.

Technology Requirements

You should bring a laptop to class for every session.

Chapman University's Academic Integrity Policy

Chapman University is a community of scholars that emphasizes the mutual responsibility of all members to seek knowledge honestly and in good faith. Students are responsible for doing their own work and academic dishonesty of any kind will be subject to sanction by the instructor/administrator and referral to the university Academic Integrity Committee, which may impose additional sanctions including expulsion. Please see the full description of Chapman University's policy on [Academic Integrity](#).

Chapman University's Students with Disabilities Policy

In compliance with ADA guidelines, students who have any condition, either permanent or temporary, that might affect their ability to perform in this class are encouraged to contact the Office of Disability Services. If you will need to utilize your approved accommodations in this class, please follow the proper notification procedure for informing your professor(s). This notification process must occur more than a week before any accommodation can be utilized. Please contact [Disability Services](#) at (714) 516-4520 if you have questions regarding this procedure or for information or to make an appointment to discuss and/or request potential accommodations based on documentation of your disability. Once formal approval of your need for an accommodation has been granted, you are encouraged to talk with your professor(s) about your accommodation options. The granting of any accommodation will not be retroactive and cannot jeopardize the academic standards or integrity of the course.

Chapman University's Equity and Diversity Policy

Chapman University is committed to ensuring equality and valuing diversity. Students and professors are reminded to show respect at all times as outlined in Chapman's Harassment and Discrimination Policy. Please review the full description of [Harassment and Discrimination Policy](#). Any violations of this policy should be discussed with the professor, the Dean of Students and/or otherwise reported in accordance with this policy."

Student Support at Chapman University

Over the course of the semester, you may experience a range of challenges that interfere with your learning, such as problems with friend, family, and or significant other relationships; substance use; concerns about personal adequacy; feeling overwhelmed; or feeling sad or anxious without knowing why. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. You can learn more about the resources available through Chapman University's [Student Psychological Counseling Services](#).

Fostering a community of care that supports the success of students is essential to the values of Chapman University. Occasionally, you may come across a student whose personal behavior concerns or worries you, either for the student's well-being or yours. In these instances, you are encouraged to contact the Chapman University [Student Concern Intervention Team](#) who can respond to these concerns and offer assistance. While it is

preferred that you include your contact information so this team can follow up with you, you can submit a report anonymously. 24-hour emergency help is also available through Public Safety at 714-997-6763.

Religious Accommodation

Religious Accommodation at Chapman University Consistent with our commitment of creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to fulfill their obligations to the university without jeopardizing the fulfillment of their sincerely held religious obligations. Please review the syllabus early in the semester and consult with your faculty member promptly regarding any possible conflicts with major religious holidays, being as specific as possible regarding when those holidays are scheduled in advance and where those holidays constitute the fulfillment of your sincerely held religious beliefs.

Changes

This syllabus is subject to change in the event of extenuating circumstances. Updates will be posted on the course website.