CSE 498 Artificial Intelligence: Concepts, Issues, and Algorithms
Spring 2024 • Section 040 • Professor Daniel Lopresti
1:35 pm – 2:50 pm TuTh • Room: Neville 003[1]

Syllabus

Description   This course provides an introduction to the field of artificial intelligence. Over the semester we will cover the theory and application of some of AI's most important underlying concepts, including AI agents, search, games, uncertainty and utility, Markov Decision Processes, reinforcement learning, Bayes' Nets, Hidden Markov Models, linear classifiers, neural networks, clustering, and decision trees. The ethics and implications of AI will be a constant theme throughout the course. As time permits, more advanced topics may be discussed.

After successfully completing the course, students will have:

- An understanding of basic AI;

- Knowledge of some examples of the state of the art;

- An understanding of the important issues and techniques in the subfields of AI.

Prerequisites: CSE 17 and CSE 140 (or CSE 261) or their equivalents. Enrollment is limited to graduate students and requires permission of the instructor.

Instructor   **Professor Daniel Lopresti**
Email dal9@lehigh.edu ~ Ext 85782
Office Hours 2:00 pm – 3:00 pm on Wednesdays (or by appointment) via Zoom[2]

Grading Assistants   **Nikita Ramakant Chaudhari**
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Text   *Artificial Intelligence: A Modern Approach, Fourth Edition*, Stuart Russell and Peter Norvig, Pearson, 2020, ISBN-13: 978-0134610993   (e-book available via CourseSite)

CourseSite   Course materials and discussion forums will be available @ http://coursesite.lehigh.edu/

Grading
- Homework assignments (10)   40%
- Take-home exams (2)   40%
- Final project (1)   20%

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[1] It is planned that CSE 498 will meet in person. However, Zoom access will be allowed for those who receive permission from the instructor due to illness. Lectures will also be recorded and made available for later viewing on CourseSite.
[2] See CourseSite for Zoom URLs.

Homework Policy	All aspects of homework assignments will be handled via CourseSite. The following is our due date policy: ● No late penalty if submitted by the deadline on the due date. ● Homework submitted after this deadline but less than 24 hours late will lose 10 points. ● Homework submitted more than 24 hours but less than 48 hours late will lose 20 points. ● Homework submitted later than this will not be graded and will receive a zero. This strict policy enables the course to be fair to all students, and for homework to be returned early enough for you to use the feedback to prepare for exams. No exceptions will be made. CourseSite enforces strict deadlines, so please verify that your work has actually been uploaded (forgetting to click "Submit" is a frequent error). Failure to upload successfully is not a valid excuse for late work. Students are advised to back up their files to the university-supported H drive, a USB drive, cloud service, and/or an external hard disk on a regular basis. Because the H drive is easily accessible as a backup, failure of one's personal machine is not an acceptable excuse for late work. There are numerous university and departmental labs available to you as an alternative if your personal machine should fail.
Exams	There will be two take-home exams at roughly the 1/3 and 2/3 points during the semester. They will be based on the material covered in lectures and the assigned readings. Makeups will be considered only for extreme circumstances. Any make-up requests will be handled on a case-by-case basis, with no guarantees, and will require evidence of your hardship.
Final Project	In lieu of a third take-home exam, students in CSE 498 will be required to do a final project over the last month of the course in consultation with the instructor. This can be a deep dive literature survey of some aspect of AI we have studied, or it can be a modest experimental project. Either way, a 12-page writeup will be due during final exam period.
Academic Integrity	The work you submit in CSE 498 must be entirely your own. While I encourage you to discuss basic concepts with others, plagiarism is never acceptable. Neither is reusing work you did for another purpose, or employing generative AI tools such as ChatGPT without my previous permission. Such cases will be referred to the University Committee on Discipline and, if you are found guilty, you may be given the failing grade WF in the course. If you have questions about this policy at any point, ask me. Be safe, not sorry.
Students with Disabilities	If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and Disability Support Services, Williams Hall, Suite 301, phone 610-758-4152, or indss@lehigh.edu, or https://studentaffairs.lehigh.edu/disabilities as early as possible in the semester. You must have documentation from Disability Support Services before accommodations can be granted.
Principles of Our Equitable Community	Lehigh University endorses The Principles of Our Equitable Community. We expect each member of this class to acknowledge and practice these Principles. Respect for each other and for differing viewpoints is a vital component of the learning environment inside and outside the classroom.