

# CSE 327 Artificial Intelligence: Theory and Practice

Spring 2023 • Section 010 • Professor Daniel Lopresti

1:35 pm – 2:50 pm TuTh • Maginnes 102<sup>1</sup>

## 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.

Also cross-listed as COGS 327. Prerequisites: CSE 17 and CSE 140 (or CSE 261). This course is not open to students who have already received credit for CSE/COGS 127.

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

**Teaching Assistant** **Shuyu Qin**  
Email [shq219@lehigh.edu](mailto:shq219@lehigh.edu)  
Office Hours 2:00 pm – 3:00 pm on Tuesdays and Fridays via Zoom<sup>2</sup>

**Grading Assistants** **Abe Berlin**  
Email [alb323@lehigh.edu](mailto:alb323@lehigh.edu)  
Office Hours 9:30 am – 11:30 am on Tuesdays via Zoom<sup>2</sup>

**Kendall Riskevich**  
Email [ker223@lehigh.edu](mailto:ker223@lehigh.edu)  
Office Hours 12:00 noon – 2:00 pm on Mondays via Zoom<sup>2</sup>

**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 (3) 60%

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<sup>1</sup> It is planned that CSE 327 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.

<sup>2</sup> 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 three take-home exams. 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.

**Collaboration Policy**

Unless explicitly stated in the problem specification, all homework assignments and exams are to be an individual effort. You are encouraged to discuss assignments with one another, your friends, and with the instructor and graders for the course. Indeed, this may be the most effective method of learning. You may share concepts, approaches, and strategies for producing a solution. However, all work submitted in your name must be your own. You may not copy in whole or in part from another student. You may not copy from a website unless explicitly permitted for the assignment in question. Violations will be considered as cases of academic dishonesty and referred to the University Committee on Discipline. If you are found guilty, you may be given the failing grade WF in the course.

If any aspect of this policy is not clear, do not make assumptions; consult with the instructor.

**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](mailto: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.