CSE 471: Intro to Artificial Intelligence (Spring 2026)

Syllabus Disclaimer

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. Remember to check your ASU email and the course site often.

Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advance notice.

1. Course Description & Objectives:

This course provides a first introduction to a myriad of topics in Artificial Intelligence. The focus of the course is the study of modern approaches to Artificial intelligence. In particular, we will study:

- **Problem solving** deals with general problem solving; techniques behind DeepBlue and AlphaGo.
- **Probabilistic modeling and reasoning** deals with uncertain modeling and reasoning. Almost all real-world problems are subject to uncertainty.
- **Decision making under uncertainty** deals with problem solving and decision making under uncertainty.
- **Machine learning** deals with learning from examples and more advanced learning

techniques that contribute to most modern AI applications.

2. Expected Learning Outcomes:

By the end of this course, you should be able to:

- Explain major AI paradigms (symbolic methods, statistical ML, deep learning, reinforcement learning) and compare their assumptions and trade-offs.
- Formulate real-world problems using appropriate AI problem representations (search, probabilistic reasoning, etc.).
- Implement core AI algorithms (e.g., search, supervised learning, neural networks, or RL).
- Explain the limitations of AI systems and propose mitigation strategies where appropriate.

3. Course Information:

Lecture:
T/TH 10:30–11:45 PM ***COORL1-74***
https://asu.zoom.us/j/83821573211
(**Lectures will also be Recorded**)

Instructor: Yu ("Tony") Zhang Email: yzhan442@asu.edu

Instructor Office Hours:
Th 2:00--4:00 PM BYENG 594 or
https://asu.zoom.us/j/4960882182
(Priority given to in-person queries. Waiting room will be enabled for Zoom. Please be patient for your turn.)

TA: Vivek Sahukar vsahukar@asu.edu

TA Office Hours:
W 3:00--5:00 PM https://asu.zoom.us/j/87655185034

Grader:
Akkamahadevi Hanni (Akku) ahanni@asu.edu

Grader Office Hours:
M 2:00--4:00 PM https://asu.zoom.us/j/82206123322.

Note that class sessions will be recorded, and recordings provided to enrolled students, instructors or instructional support personnel. If you have concerns about being recorded, please contact the course instructor. Recordings of all class sessions will be posted in Canvas for all students to access for reviewing course materials.

Student Success

To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track
- access ASU Student Resources
- review the Student Tips for Learning with Zoom

4. Textbooks:

Required: Artificial Intelligence - A Modern Approach
Stuart Russell & Peter Norvig, 3rd Edition

- **Note**: The 2nd & 4th Edition can still be used.

Recommended readings:

Reinforcement Learning: An Introduction
Richard S. Sutton and Andrew G. Barto
http://incompleteideas.net/book/the-book-2nd.html

Deep Learning
Ian Goodfellow, Yoshua Bengio & Aaron Courville
https://www.deeplearningbook.org

5. Resources

Course web page
https://crslabasu.github.io/teaching/CSE471-S26/

Schedule (rough and subject to changes):
https://crslabasu.github.io/teaching/CSE471-S26/

On-line discussions and polls:
Course Canvas page >> Ed Discussion (left panel)

Recorded lectures (generally available a few hours after lecture):
Course Canvas page >> Zoom (left panel) >> Cloud Recordings

Class materials (syllabus, slides, lecture notes, homework, and project):
Course Canvas page >> Files (left panel)

Quiz:
Course Canvas page >> Quizzes (left panel)

Do NOT use Canvas Message OR Email for technical questions (use Ed Discussion instead). Such messages and emails will be ignored. For other questions, email BOTH the instructor and TA(s) for more timely response.

If students must miss a quiz/homework/project/exam for reasons out of their control, they should send the instructor & TAs an email as soon as possible, and ***no later than*** the assignment due date or exam date. Formal verification documents (if applicable) must be submitted before the extended deadline (e.g., if you are sick, a doctor's note stating that you are unable to attend/work ***AND*** clearly specifying the affected period). Note that the affected period must cover the extended deadline; otherwise, the assignment in concern can only be extended up to the end of the affected period.

General policy for assignments:

- If homework/project is turned in late **AND within 48 hours of the deadline**, the maximum grade you can expect is **50%** of the total grade; if you do submit a late homework/project, you need to send BOTH the instructor and the TA(s) an email ***AND*** submit the assignment to Canvas within 48 hours of the original deadline; no credits will be given after 48 hours.
- If you are stuck, **first** consult/review the recorded lectures, textbook, handouts, and notes to attempt your own solutions. If you are still stuck afterwards, you may post questions on Ed Discussion (about where you are stuck) under the most relevant topic, consult online resources (including working with generative AI) that help you understand the technical approaches, or visit the instructor or TA(s) during office hours. **DO NOT** consult/ask for assignment solutions from others, or directly asking generative AI for solutions.

- If you still cannot come up with satisfactory and complete solutions to homework/project after the above steps, submit your attempted solutions.
- For questions posted on Ed Discussion, the TA(s) and me will be responding **after 1 calendar day.** If you plan to rely on our answers, make sure to plan ahead. This will let your classmates enough time to attempt to answer your questions for class participation credit.

6. Homework:

Homework problems will be posted on Canvas. Submission of homework is done electronically via Canvas before the deadline. A single PDF file submission is allowed:

1) You are allowed 2 calendar days to modify your solutions after receiving grading feedback. If you correct the mistakes, you will receive full marks (after requesting regrading).

2) You can either submit typed or hand-written solutions (scanned).

Homework group in any form is discouraged. **Be able to independently work on the homeworks is a CRITICAL exercise/indicator for the exams.**

7. Exams and quizzes:

There will frequently be quizzes during the semester for the materials covered in the previous classes (focusing on the last 1-2 lectures). If you miss the quiz due to reasons outside of your control (e.g., an emergency), you must inform the instructor and the TAs before or within ***24 hours*** of the class in which the quiz is published.

You will be allowed multiple attempts to work on the quizzes, and the highest grade will be recorded.

Quiz group in any form is discouraged. **Be able to independently work on the quizzes is a CRITICAL exercise/indicator for the exams.**

8. Individual projects:

- Coding based project that is composed of multiple parts covering various topics throughout the class.
- These are individual projects, and you will be provided with the autograder (on which your project grade will be based on).

Project group in any form is discouraged. **Be able to independently work on the projects is a CRITICAL exercise/indicator for the final exam (coding).**

9. Grading Questions:

Grading will be done via Gradescope. If you believe that there is a mistake in grading, you must request regrading **within 2 calendar days**.

All assignments within the same class will be weighted equally unless noted otherwise.

10. Participation Credits (Extra Credits):

- 1 extra credit for attendance.
- 1 extra credit for the end-of-semester survey.
- 1 extra credit for online (Ed Discussion): contributing to on-line discussions by asking/answering questions that are liked by your classmates. This should be an activity throughout the semester.
  - Helping others figure out fallacies in their line of thought when attempting to solve a problem.
  - Giving hints to your classmates, ***not the answer***!

11. Grading:

Homework	5% (expect 5 homeworks)
Individual projects	5% (expect 5 individual projects)
Quizzes	5% (expect 1 quiz every week)
Midterm (written)	25%
Final (coding)	30%
Final (written)	30%
Participation	3%
Total	103%

Final grades will be determined as follows*:

A+	[98-103]
A	[93-98)
A-	[90-93)
B+	[85-90)
B	[80-85)
B-	[75-80)
C+	[70-75)
C	[65-70)
D	[60-65)
E	[0-60)

* **The instructor reserves the rights to curve if necessary.**

12. Other Communication:

Chat

You may use the ASU Slack channel for communicating with other students. However, please note that Slack is not monitored by the course team. For discussion of assignments on Slack, the policy is the same with Ed Discussion: *collaborative learning is encouraged, not collaborative assignment* (see general policy for assignments). We reserve the rights to incur penalty is inappropriate behavior is observed.

Email

ASU email is an official means of communication among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account.

Remarks on Electronic Communication: For questions regarding personal issues, email **BOTH** the instructor and TA(s) or visit us during our office hours. Before sending an email, please follow the excellent advice http://www.wikihow.com/Email-a-Professor.

13. Honors Contract:

For honors project, the students must decide their own topic and then email the instructor for approval. Once approved, you can start working on the project. A few ideas include:

1. Extend one of the class projects. Just a few ideas here: making teleporting ghosts, improving the algorithms learned in class with evaluation, and implementing competing methods to methods learned in class with comparison.
2. Read 2-3 recent papers on topics that we cover in class
3. Implement algorithms learned in class on physical platforms
4. Propose your own project idea
5. You may also ask the instructor for ideas, which will be more challenging than your own ☺

You will also need to submit a 2-page report to explain your effort along with your implementation **by the end of the semester.**

14. Attendance:

Come to class only if you like. All materials will be available online. However, if you skip classes, **you do miss the chance for the attendance bonus.**

Excused absences for classes will be given without penalty to the grade in the case of (1) a university-sanctioned event [ACD 304-02]; (2) religious holidays [ACD 304-04]; a list of religious holidays can be found here https://eoss.asu.edu/cora/holidays]; (3) work performed in the line-of-duty according [SSM 201-18]. Students who request an excused absences must follow the policy/procedure guidelines. Excused absences do not relieve students of responsibility for any part of the course work required during the period of absence.

15. Policy regarding expected student behavior:

Students in this class are expected to acknowledge and embrace the FSE student professionalism expectation located at: https://engineering.asu.edu/professionalism/

16. Generative AI:

Generative AI is a technology that can often be useful in helping students learn the theories and concepts in this course. However, the use of generative AI tools to directly provide solutions for any assignments will be considered academic dishonesty and a violation of the ASU Academic Integrity Policy. Students confirmed to be engaging in non-allowable use of generative AI will be sanctioned according to the academic integrity policy and FSE sanctioning guidelines. The bottom-line is that you are expected be able to come up with solutions **without any form of assistance** when given similar problems in the exams.

17. Class evaluations and feedback:

I take very seriously class evaluations and feedback. During the semester, **I may post surveys on Ed Discussion** for feedback on both the course organization and the course content. I will appreciate it if you respond to these surveys. Ideally, the changes I implement will help you better succeed in the course.

Finally, it is **extremely important** that you respond to the final anonymous survey solicited by the university at the end of the school year. The overall feedback helps me make changes for the next year. The survey is often released 1-2 weeks before the final at: https://fultonapps.asu.edu/eval/

18. Academic Integrity:

All students are expected to adhere to the ASU Student Honor Code and the ASU academic integrity policy, which can be found at https://provost.asu.edu/academic-integrity/policy). Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. If you have taken this course

before, you may not reuse or submit any part of your previous assignments without the express written permission from the instructor.

All student academic integrity violations are reported to the Fulton Schools of Engineering Academic Integrity Office (AIO). Withdrawing from this course will not absolve you of responsibility for an academic integrity violation and any sanctions that are applied. The AIO maintains a record of all violations and has access to academic integrity violations committed in all other ASU college/schools.

19. Student Copyright Responsibilities:

You must refrain from uploading to this course shell, discussion board, website used by the course instructor or any other course forum, material that is not your own original work, unless you first comply with all applicable copyright laws. Course instructors reserve the right to delete materials from the course shell on the grounds of suspected copyright infringement.

The contents of this course, including lectures and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling or distributing course content or notes taken during the conduct of the course. Any recording of class sessions is authorized only for the use of students enrolled in this course during their enrollment in this course. Recordings and excerpts of recordings may not be distributed to others. (see ACD 304–06, "Commercial Note Taking Services" and ABOR Policy 5-308 F.14 for more information).

20. Policy against threatening behavior, per the Student Services Manual, SSM 104–02

Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds, property, or services (see SSM 104-02). Interfering with the peaceful conduct of university-related business or activities or remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students.

21. Warning of Offensive Class Materials

Although unexpected, some course content may be deemed offensive by some students and, in which case, please bring this to the attention of the instructor.

22. Disability Accommodations

Suitable accommodations are made for students having disabilities. Students needing accommodation must register with the ASU Student Accessibility and Inclusive Learning Services office and provide documentation of that registration to the instructor. Students should

communicate the need for an accommodation in enough time for it to be properly arranged. See ACD 304-08 Classroom and Testing Accommodations for Students with Disabilities.

23. Harassment and Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling is available if you wish to discuss any concerns confidentially and privately. ASU online students may access 360 Life Services, https://goto.asuonline.asu.edu/success/online-resources.html.

24. Photo requirement

Arizona State University requires each enrolled student and university employee to have on file with ASU a current photo that meets ASU's requirements (your "Photo"). ASU uses your Photo to identify you, as necessary, to provide you educational and related services as an enrolled student at ASU. If you do not have an acceptable Photo on file with ASU, or if you do not consent to the use of your photo, access to ASU resources, including access to course material or grades (online or in person) may be negatively affected, withheld or denied.

Syllabus changes: Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advance notice.

How Long Students Should Wait for an Absent Instructor: In the event the instructor fails to indicate a time obligation, the time obligation will be 15 minutes for class sessions lasting 90 minutes or less, and 30 minutes for class sessions lasting more than 90 minutes. Students may be directed to wait longer by someone from the academic unit if they know the instructor will arrive shortly.