CSE 4308/5360: Artificial Intelligence
Fall 2023

Instructor Information

Instructor(s)
Miao Yin

Office Number
ERB 346

Office Telephone Number
817-272-3785

Email Address
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Faculty Profile
https://www.uta.edu/academics/faculty/profile?username=yinm

Office Hours
Wed 3:00PM-4:00PM

Course Information

Section Information
CSE 4308 005 / CSE 5360 006

Time and Place of Class Meetings
CRB 114, Monday/Wednesday 4:00 pm – 5:20 pm (In-person)

Content
This course introduces the basic philosophies and techniques of Artificial Intelligence. AI techniques have become an essential element in modern computer software and are thus essential for a successful career and advanced studies in computer science. Topics covered in this course include search algorithms (such as breadth-first, depth-first, A*), game-playing algorithms (such as Minimax), machine learning, and applications (such as speech recognition and computer vision).

Student Learning Outcomes
Students successfully completing this course will be able to apply a variety of techniques for the design of efficient algorithms for complex problems.

Required Textbooks and Other Course Materials
Slides of course content will be posted on the website. Recommended textbook: *Artificial Intelligence: A Modern Approach, 4th Edition by Stuart Russell, Peter Norvig.* Price: $39.96 - $206.75 at the UTA Bookstore (https://www.bkstr.com/texasatarlingtonstore/product/artificial-intelligence-991236-1). Note: 3rd or 2nd Edition is also acceptable.

Descriptions of major assignments and examinations
There will be several programming assignments in this course. If you find yourself in an emergency and cannot deliver the assignments on time, immediately inform the instructor. The work done for

the assignment must be your individual work. Any external resources or code segments you want to use must first be cleared by the instructor and cited appropriately in your work. Violations of this will not be tolerated and result in severe penalties for all parties involved, in strict compliance with official UTA policy.

The assignments must be coded in base versions of C, C++, Python, Java. Alternatively, they can be coded to run on the ACS machine omega (All students will have an account on the ACS machine omega). Note that Omega compatibility is not required (just provided as an option for students). If any partial code is provided as part of the assignment, it will generally be only provided in a limited number of languages. However, you are under no obligation or requirement to use it. Additional details will be announced in class.

All assignments are required. No assignments will be dropped from your final score (unless in case of a documented emergency)

All submissions must be submitted via Canvas. No other method of submission accepted under any circumstances.

Technology Requirements
Students will need to be able to program in C, C++, Python or Java for their programming assignments. If any part of their assignment involves written work, they will also need to know how to scan and upload their handwritten text or typed text as PDF files.

They will need to be able to use Canvas to view any supplementary material provided by the instructor, submit assignments and to view lecture session recordings (for review purposes).

Grading Information

Grading
You will be assigned a final score based on your assignments, quizzes, and final project.

Material	Contribution to Final Score
Quizzes	30%
Assignments	30%
Final Project	40%

Note: The lowest quiz score will NOT be used in the calculation of its average. ALL assignment scores will be used in the calculation of its average.

The numeric score is converted to a letter grade according the following rubric:
- A: Final Score >= 85
- B: 85 > Final Score >=70
- C: 70 > Final Score >= 55
- D: 55 > Final Score >=40
- F: Otherwise

For the Quizzes and Assignments, if any tasks were graded incorrectly (a correct answer given less than full credit) or if there is a totaling error, please contact either the TA or the instructor ASAP. Any partial credit obtained for incorrect tasks is not up for discussion/negotiation.

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels. No makeup assignments, quizzes or projects will be provided for the purpose of bumping up your grade under any circumstances.

Grade Grievances
Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Course Schedule

Week	Date	Lecture	Topic
1	08/21/2023	1	Course Introduction
	08/23/2023	2	Uninformed Search 1
2	08/28/2023	3	Uninformed Search 2
	08/30/2023	4	Informed Search 1
3	09/04/2023		NO CLASS
	09/06/2023	5	Informed Search 2
4	09/11/2023	6	Game Playing 1
	09/13/2023	7	Game Playing 2
5	09/18/2023		Machine Learning 1
	09/20/2023	8	QUIZ 1
6	09/25/2023	9	Machine Learning 2
	09/27/2023	10	Genetic Algorithm
7	10/02/2023	11	Constraint Satisfaction Problems
	10/04/2023	12	Decision Tree 1
8	10/09/2023		QUIZ 2
	10/11/2023	13	Decision Tree 2
9	10/16/2023	14	Decision Tree 3
	10/18/2023	15	Support Vector Machine 1
10	10/23/2023	16	Support Vector Machine 2
	10/25/2023	17	QUIZ 3
11	10/30/2023	18	Neural Networks 1
	11/01/2023		Neural Networks 2
12	11/06/2023	19	Neural Networks 3
	11/08/2023	20	Speech Recognition 1
13	11/13/2023	21	Speech Recognition 2
	11/15/2023	22	QUIZ 4
14	11/20/2023	23	Computer Vision 1
	11/22/2023		NO CLASS
15	11/27/2023	24	Computer Vision 2
	11/29/2023	25	QUIZ 5
16	12/04/2023		Final Review

This schedule is tentative and subject to change at instructor's discretion. Changes will be announced in class. The instructor reserves the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. The quizzes will be held at regular class times in the same location as lectures. The Final Exam location, date and time is subject to change by the University. Please visit: https://www.uta.edu/records/calendars/final-exams.php to get

the updated date, time, and location information (unless otherwise mentioned, location is the same as lectures). Students should be prepared to be available for all of Finals Week (5/4/2023 to 5/10/2023) in case of any changes to Final Exam scheduling.

Institutional Information

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (https://resources.uta.edu/provost/course-related-info/institutional-policies.php) which includes the following policies among others:
- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

Additional Information

Face Covering Policy
Face coverings are not mandatory; all students and instructional staff are welcome to wear face coverings while they are on campus or in the classroom.

Attendance
Attending class sessions is a critical predictor and indicator of student success. The University of Texas at Arlington does not recognize a single attendance policy but encourages faculty–to establish class-specific policies on attendance. As the instructor of this section, I will be following the attendance policy described above.

The U.S. Department of Education requires that UT Arlington have a mechanism in place to verify Federal Student Aid recipients' attendance in courses. UT Arlington instructors are expected to report the last date of attendance when submitting students' final course grades; specifically, when a student earns a course grade of F, instructors must report the last date a student attended their class. For on-campus classes, last date of attendance can be based on attendance rosters or on academic engagements—a test, participation in a class project or presentation, or Canvas-based activity. Online or distance education courses require regular and substantive online interaction and participation. Students must participate in online course activities in Canvas to demonstrate attendance; logging into an online class is not sufficient by itself to demonstrate attendance. The last date of attendance is reported to the U.S. Department of Education for federal financial aid recipients.

Emergency Exit Procedures
Should we experience an emergency event that requires evacuation of the building, students should exit the room and move toward the nearest exit, which is located https://www.uta.edu/campus-ops/ehs/fire/Evac_Maps_All/Evac_CRB/Evac_CRB_114.pdf . When exiting the building during an emergency, do not take an elevator but use the stairwells instead. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Students should also be encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at Emergency Communication System (https://www.uta.edu/uta/emergency.php).

Academic Success Center
The Academic Success Center (ASC) includes a variety of resources and services to help you maximize your learning and succeed as a student at the University of Texas at Arlington. ASC services include supplemental instruction, peer-led team learning, tutoring, mentoring and TRIO SSS. Academic Success Center services are provided at no additional cost to UTA students. For additional information visit: Academic Success Center (https://www.uta.edu/student-success/course-assistance). To request disability accommodations for tutoring, please complete this tutoring request form (https://www.uta.edu/student-success/course-assistance/tutoring/request).

The IDEAS Center (https://www.uta.edu/ideas/) **(**2nd Floor of Central Library) offers **FREE** tutoring and mentoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The English Writing Center (411LIBR)
The Writing Center offers **FREE** tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at the Writing Center (https://uta.mywconline.com). Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see Writing Center: OWL (http://www.uta.edu/owl) for detailed information on all our programs and services.

The Library's 2nd floor Academic Plaza (http://library.uta.edu/academic-plaza) offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours (https://library.uta.edu/hours) of operation.

Librarian to Contact
Each academic unit has access to Librarians by Academic Subject (http://www.uta.edu/library/help/subject-librarians.php) that can assist students with research projects, tutorials on plagiarism and citation references as well as support with databases and course reserves.

Emergency Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381

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