UMBC

CMSC 471 — Introduction to Artificial Intelligence
Sections 01
FALL 2022 (3 credits)

Contents

1 Course Information

1.1 Meetings and Instructors

Time: Monday, Wednesday, 2:30 - 3:45 PM
Location: Janet & Walter Sondheim 203

This class will use **discord** as the discussion forum, where course announcements and extracurricular questions and discussions can happen.

You are encouraged to discuss AI concepts and general questions about assignments and programming languages on discord.

Please use this link to join discord for this class : https://discord.gg/Z5Z7vpjz

Prerequisites CMSC 341 (*Principles of Programming Languages*) with the grade of C or better; or instructor permission

Name	E-Contact	Office Hours
Instructor: Anantaa Kotal	anantak1@umbc.edu	Remote (Discord) Monday, Wednesday 5:30-6:45
TA: Prasanna Bollineni	FP42175@umbc.edu	Remote (Discord)
Grader: Nikitha Amaram	DM22339@umbc.edu	N/A

1.2 Texts, Readings, and Discussion

The readings will be from publicly available sources. Most will come from the David Poole and Alan Mackworth's *Artificial Intelligence: Foundations of Computational Agents*, 2nd Edition, available at `http://artint.info/2e/html/ArtInt2e.html`. This text is available online (for free, legitimately/legally).

1.3 Topics

The topics covered will include problem-solving approaches, problem spaces and search, knowledge representation and reasoning, logic and deduction, planning, expert systems, handling uncertainty, learning and natural language understanding. Other special or current topics (e.g., fairness and ethics in AI) may be covered as well.

1.4 Goals

After taking this course, you will:

1. be introduced to some of the core problems and solutions of artificial intelligence (AI);
2. learn different ways that success and progress can be measured in AI;

3. be exposed to how these problems relate to those in computer science and subfields of computer science;
4. have experience experimenting with AI approaches;
5. practice your (written) communication skills.

2 Coursework and Evaluation

This course consists of six or eight assignments, a midterm, and a final exam. The overall evaluation is as follows:

Component	**471**—Undergrad
Assignments	50%
Exams	40%
Quizzes	10%

Grading Scale: The following grading scale is used on the normalized final, rounded percentages:

If you get at least a/an...	**you are guaranteed a/an... or higher.**
90	A
80	B
70	C
65	D
0	F

3 Dates and Deadlines

3.1 Important Dates

Due dates will be announced on blackboard. Unless stated otherwise, items are due by **11:59 PM** (UMBC time) of the specified day. Submission instructions will be provided with each assigned item.

3.2 Extensions and Late Policy

You will be given about a week to complete programming assignments. A one time extension of up to a week will be granted if requested ahead of time. Last minute requests will not be granted.

4 Academic Honesty

Summary *I take academic honesty seriously. Do not cheat, deceive, plagiarize, improperly share, access or use code, or otherwise engage in academically dishonest behaviors. Doing so may result in lost credit, course failure, suspension, or dismissal from UMBC. Instances of suspected dishonesty will be handled through the proper administrative procedures.*

This course follows the academic honesty policy from the Office of Undergraduate Education, available from `http://oue.umbc.edu/ai/`. The following is a concise summary of the policies adopted:

> By enrolling in this course, each student assumes the responsibilities of an active participant in UMBCs scholarly community in which everyones academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal.

Especially for computer science classes, there are generally questions about what is and is not allowed. You are encouraged to discuss the subject matter and assignments with others. The Piazza discussion board provides a great forum for this. However, you may not write or complete assignments for another student; allow another student to write or complete your assignments; pair program; copy someone else's work; or allow your work to be copied. (This list is not inclusive.)

As part of discussing the assignments, you may plan with other students; be careful when dealing with pseudocode. A good general rule is that if anything is written down when discussing the assignments with others, you **must** actually implement it separately and you must **not** look at your discussion notes.

You are free to use online references like Stack Overflow for questions that are not the primary aspect of the course. If, for example, you're having an issue with unicode in Python, or are getting a weird compilation error, then sites like Stack Overflow are a great resource. Don't get stuck fighting your tools.

You may generally use external libraries (and even parts of standard libraries), provided what you use does not actually implement what you are directed to implement.

Be sure to properly acknowledge whatever external help—be it from students, third party libraries, or other readings—you receive.

5 Students with Accomodations

The office of Student Disability Services (SDS, `https://sds.umbc.edu`) works to ensure that students can access and take advantage of UMBC's educational environment, regardless of disability. From the SDS,

UMBC is committed to eliminating discriminatory obstacles that may disadvantage students based on disability. Services for students with disabilities are provided for all students qualified under the Americans with Disabilities Act (ADA) of 1990, the ADAAA of 2009, and Section 504 of the Rehabilitation Act who request and are eligible for accommodations. The Office of Student Disability Services (SDS) is the UMBC department designated to coordinate accommodations that would allow students to have equal access and inclusion in all courses, programs, and activities at the University.

If you have a documented disability and need to request academic accommodations, please refer to the SDS website at `sds.umbc.edu` for registration information and to begin the process, or alternatively you may visit the SDS office in the Math/Psychology Building, Room 212. For questions or concerns, you may contact us through email at `disAbility@umbc.edu` or phone (410) 455-2459.

If you require accommodations for this class, make an appointment to meet with me to discuss your SDS-approved accommodations.

6 Inclusion

Please see the Office of Equity and Inclusion's website for the most up-to-date information and policies.

College can be stressful. Don't add to that stress by engaging in harassing or hostile behaviors. They are not welcome in the classroom and are completely inappropriate.

More and more organizations are dealing with hostile behavior. One such organization in the NLP community (NAACL, the North American Association for Computational Linguistcs) has a good explanation of the behaviors that are not welcome (replace "conference," "event" or "ACL" with "class"):

> [Harassment and hostile behavior include]: speech or behavior that intimidates, creates discomfort, or interferes with a persons participation or opportunity for participation in a conference or an event. We aim for ACL-related activities to be an environment where harassment in any form does not happen, including but not limited to: harassment based on race, gender, religion, age, color, appearance, national origin, ancestry, disability, sexual orientation, or gender identity. Harassment includes degrading verbal comments, deliberate intimidation, stalking, harassing photography or recording, inappropriate physical contact, and unwelcome sexual attention. The policy is not intended to inhibit challenging scientific debate, but rather to promote it through ensuring that all are welcome to participate in shared spirit of scientific inquiry.

Any student who has experienced sexual harassment or assault, relationship violence, and/or stalking is encouraged to seek support and resources. There are a number of resources available to you.

Please be aware that as instructors, I and other faculty are required per UMBC policy to report disclosures of sexual assault, domestic violence, relationship violence, stalking, and/or gender-based harassment to the University's Title IX Coordinator. The purpose of these requirements is for the University to inform you of options, supports, and resources. Please note that Maryland law requires that I report all disclosures or suspicions of child abuse or neglect to the Department of Social Service and/or the police.

You can utilize support and resources even if you do not want to take any further action. You will not be forced to file a police report, but please be aware, depending on the nature of the offense, the University may take action. If you need to speak with someone **in confidence** about an incident, the following are available:

- The Counseling Center: 410-455-2742 (M-F 8:30-5)
- University Health Services: 410-455-2542 (M-F 8:305)
- For after-hours emergency consultation, call the police at 410-455-5555

There are additional, **non-confidential** on-campus resources:

- The Womens Center (available to students of all genders): 410-455-2714 (M-Th 9:306, F 9:30-4)
- Title IX Coordinator: 410-455-1606 (9-5)

7 Version Changes

1.0 1/27/21: Initial version