

ARTIFICIAL INTELLIGENCE: PHILOSOPHICAL AND ETHICAL ISSUES
(CGSC 3603 A/PHIL 3503)

Carleton University, Fall 2023

Day/Time: Wednesdays, 11:35-2:25pm

Prof. Myrto Mylopoulos

Office Hours: By appointment (over Zoom)

E-mail: Myrto.Mylopoulos@carleton.ca

Course Website: <https://brightspace.carleton.ca/d2l/home/232266>

Course Description

This course will examine a range of issues in artificial intelligence, including ethical issues, through a philosophical lens. Questions we will address include the following:

- Is the mind a computational system?
- Can artificial general intelligence ever be reached?
- How likely are we to face a singularity event?
- What are the risks, both existential and non-existential, involved in building intelligent machines?
- Could an AI ever be conscious or sentient?
- Might some present or future AIs deserve moral consideration?
- Are AIs moral agents? Can they be said to be morally responsible?

Course Prerequisites: CGSC 2001 or PHIL 2501, and third-year standing in Cognitive Science or Philosophy.

Course Objectives

Our aim in this course will be to support and develop the following:

- An understanding of foundational philosophical issues in artificial intelligence.
- A familiarity with current debates in artificial intelligence from a philosophical perspective.
- An ability to examine ethical problems work from within a broader theoretical framework.
- An ability to articulate a critical viewpoint on an issue clearly and effectively.

Course Materials

- All required readings and additional resources will be made available on Brightspace.

Course Requirements

Course Component	Percentage of Final Grade
Reading Assignments (Perusall)	20%
In-Class Participation Exercises	20%
Writing Assignment #1	15%
Writing Assignment #2	15%
Group Presentation	30%

Reading Assignments

Readings will be assigned for every class session except the first and the last two. All readings are required, except for those marked ‘optional’ on the course syllabus. While optional, you are strongly encouraged to do these readings, as they’ll help both fill in the background for, and expand upon, the material we’ll be discussing in class.

To work through the readings, we will be using Perusall, a collaborative e-reading platform that enables you to tackle the readings together as a group in between our class sessions. The reading assignments you complete on Perusall will be worth **20%** of your final grade. They are due the day before class (**Tuesdays**) by **8pm**.

Reading assignments on Perusall will count towards your final grade from Week 2 onwards.

For instructions on how to register for and use Perusall, please see the *Guide to Perusall* posted under Week 1 on Brightspace.

In-Class Participation Exercises

These will take place during class, starting in the second class and not including the last two classes. They are aimed at giving you practice articulating your thinking (in written and oral form), facilitating class discussion, and helping you to process the material we cover. There are no make-ups for these exercises. In the case of illness or emergency preventing you from being in class on a given day, you may be excused from participating—please let me know promptly if this is the case.

Two Short Writing Assignments

Details TBA. We will go over instructions and a marking rubric in class.

Writing Assignment #1 (15%) (1000 words)

Due: **Friday, October 20th by 11:59pm**

Writing Assignment #2 (15%) (1000 words)

DUE: Monday, November 20th by 11:59pm

To be submitted via Brightspace.

Late submissions will be penalized 5% per day, including weekends, except in the case of illness or emergency.

Group Project

Details TBA. To be presented during class time on **November 29th and December 6th.**

Electronic Devices in the Classroom

Please turn off (or silence) your cell phones and put them away at the start of class. The use of laptops for the **sole purpose** of note-taking is permitted.

Online Availability

I will do my best to respond to your emails within 24 hours, but I may not always be able to do so. (And I'll likely be slower on weekends and holidays.) If you think your message will require a lengthy reply from me, it's probably best to arrange a meeting instead.

Course Readings/Topics Schedule

Check Brightspace for most up-to-date version.

Week 1 (Sept. 6): Introduction

- No assigned readings.

Week 2 (Sept. 13): GOFAI and Classical Computationalism

- Putnam (1967), "The Nature of Mental States"
- Block and Fodor (1972), "What Psychological States Are Not"
- Optional:
 - Copeland (1993), "Can a Machine Think?"

Week 3 (Sept. 20): Connectionism

- Rumelhart (1989), "The Architecture of Mind: A Connectionist Approach"
- Churchland & Sejnowski (1990), "Neural Representation and Neural Computation"
- Optional:
 - Fodor & Pylyshyn (1988), "Connectionism and Cognitive Architecture: A Critical Analysis"

Week 4 (Sept. 27): AI Tools and Artificial General Intelligence

- Shevlin et al. (2019), "The Limits of Machine Intelligence"
- Floridi (2023), "AI as Agency without Intelligence"
- Optional:
 - Buckner (2019), "The Comparative Psychology of Artificial Intelligences"
 - Turing (1950), "Computing Machinery and Intelligence"

Week 5 (Oct. 4): Super Intelligence and the Singularity

- Chalmers (2011), "The Singularity: A Philosophical Analysis"
- Bostrom (2003), "When Machines Outsmart Humans"

Week 6 (Oct. 11): AI and Existential Risk

- Vold & Harris (Forthcoming), "How Does Artificial Intelligence Pose an Existential Risk?"

- Wallach & Valor (2020), “Moral Machines: From Value Alignment to Embodied Virtue”
- Optional:
 - Omohundro (2018), “The Basic AI Drives”

Week 7 (Oct. 18): AI and Non-Existential Risk

- James (2020), “Planning for Mass Unemployment”
- Asaro (2020), “Autonomous Weapons and the Ethics of Artificial Intelligence”

Week 8 (Oct. 25): NO CLASS (FALL BREAK)

Week 9 (Nov. 1): AI and Consciousness

- Schneider (2020), “How to Catch an AI Zombie”
- Dehaene, Lau, and Kouider (2017), “What is Consciousness and Could Machines Have It?”
- Optional:
 - Aleksander (2010), “Conscious Machines”

Week 10 (Nov. 8): AI & Moral Patiency

- Shevlin (2021), “How Could We Know When a Robot Was a Moral Patient?”
- Schwitzgebel & Mara (2015), “A Defense of the Rights of Artificial Intelligence”
- Optional:
 - Sparrow (2012), “Can Machines Be People?”

Week 11 (Nov. 15): AI & Moral Agency

- Véliz (2021), “Moral Zombies: Why Algorithms are Not Moral Agents”
- Floridi & Sanders (2004), “On the Morality of Artificial Agents”
- Optional:
 - Brozek & Janik (2019), “Can Artificial Intelligences Be Moral Agents?”
 - Swanepoel (2021), “Does Artificial Intelligence Have Agency?”

Week 12 (Nov. 22): Human-AI Social Relationships

- Devlin (2020), “The Ethics of the Artificial Lover”
- Nyholm (Forthcoming), “The Ethics of Human-Robot Interaction and Traditional Moral Theories”
- Optional
 - Whitby (2012), “Do You Want a Robot Lover? The Ethics of Caring Technologies”

Week 13 (Nov. 29): Group Presentations

- No assigned readings.

Week 14 (Dec. 6): Group Presentations

- No assigned readings.

Additional Information

In accordance with the Carleton University Undergraduate Calendar (p .34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

Plagiarism

The University Academic Integrity Policy defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations. Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings without appropriate acknowledgement; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotation marks.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor.

The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of “F” for the course.

Statement on Student Mental Health

As a University student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergencynumbers/>

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

Statement on Pandemic Measures

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are [a number of actions you can take](#) to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you should follow Carleton's [symptom reporting protocols](#).

Masks

Masks are no longer mandatory in university buildings and facilities. However, the university continues to recommend masking when indoors, particularly if physical distancing cannot be maintained.

Vaccines

While proof of vaccination is no longer required to access campus or participate in in-person Carleton activities, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Requests for Academic Accommodations

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

- **Pregnancy obligation:** Please write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).
- **Religious obligation:** Please write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details [click here](#).
- **Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).
- **Survivors of Sexual Violence:** As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>
- **Accommodation for Student Activities:** Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic

accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

<https://carleton.ca/senate/wpcontent/uploads/Accommodation-for-Student-Activities-1.pdf>

Important Information

- Students must always retain a copy of all work that is submitted.
 - Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.
 - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>
 - November 15th, 2023: Last day for academic withdrawal from full fall and late fall courses.
 - March 15th, 2024: Last day for academic withdrawal from full winter, late winter, and fall/winter courses.
 - For a list of dates and deadlines, including holidays and exam dates, please visit: <https://calendar.carleton.ca/academicyear/>
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