

# Minds and Machines

PHIL250-002, University of British Columbia, Winter Term 2 – January-April 2021

**Synchronous Lecture:** Tuesdays 12:30-14:00 through Collaborate Ultra

**Asynchronous Lecture:** Posted Thursdays at 12:00 noon on Canvas

## Instructor

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### Office Hours

Tuesdays 10:00-11:00 or by appointment

## Course Description

One way to think about a human mind is to compare it to how a computer processes information. One way to think about the goals of artificial intelligence is to say we want to create a human-mind-like system. But, wait a minute. We think human minds are computers, but computers should be human minds. Which is it? In the first half of this course we will examine whether and how AI and human minds are similar and what this means for applications of technology going forward. We will then discuss various problems in the application of AI ranging from AI in healthcare to AI in warfare to AI in love and sex. This course assumes no previous background in philosophy or computer sciences.

## Outcomes

Upon successful completion of this course, you will:

- Be able to articulate compelling arguments regarding the philosophical and ethical implications of artificial intelligence in a variety of applications.
- Understand how to accurately identify your audience and how to best communicate your views to them.
- Appreciate the complexities inherent in AI applications which are not always discussed.

## Assessments

<i>Assessment</i>	<i>Weight</i>	<i>Due</i>
<b>Course Preferences Survey</b>	5%	Jan 11, 23:59
<b>First Reaction Questions/Comments</b>	10%	Every Tuesday, 09:00
<b>Early Position Debate</b>	10%	Jan 19, 23:59
<b>Critical Evaluation Assignment</b>	10%	Feb 11, 23:59
<b>Science Communication Project</b>	20%	Mar 4, 23:59
<b>Final Project</b>		
<b>Proposal</b>	10%	before Mar 16, 23:59
<b>Project</b>	35%	Apr 13, 23:59
<b>BONUS – Annotated Bibliography</b>	5%	Apr 6, 23:59

# Course Preference Survey

The second half of this course will focus on applications of AI to current problems in the world. To make this as relevant as possible your interests, I want you to respond to the following two questions:

**Question 1:** Do you want to cover three topics in detail (two weeks each), or do you want to cover all six topics at a surface level (one topic per week)?

**Question 2:** Please rank all six potential topics by level of interest. Even if you only want to cover three in depth, please rank all six so your opinion can be taken into account if the topics we choose do not all belong to your top three.

The six options are outlined at the end of this syllabus, below the academic policies section.

Along with these two questions, please use this submission to let me know about anything that would help create a comfortable learning environment for you during this semester. This can include things like your pronouns, your preferred name (if different from the name in UBC's system), any topics you find distressing that may come up in discussions, etc.

## First Reaction Questions and Comments

As you work through the course material you will inevitably have thoughts, comments, or questions about the content. I want to make sure I address as many of these questions and interests as possible as the course progresses. These reaction submissions will help me tailor the course for your learning.

This is truly meant to be a first reaction, so please don't spend any more than 10 minutes writing your response. You can write about anything that piques your interest while preparing for that week's class. These do not have to be spectacular or revolutionary. You will get full marks for the week if you pass something in that relates to that week's materials or topic.

## Early Position Debate

Your first writing assignment will be to a 250-500 word position statement on the following controversial question: **"Can artificial intelligence ever become conscious?"**

The purpose of this assignment is to start warming up your critical thinking and argumentative skills. A successful position statement is one that explicitly presents your opinion, recognizes a potential flaw with your position, and briefly responds to this flaw. You do not have to cite anything for this paper. In fact, I would prefer that you do not consult any sources for this position. What I am looking for with this assignment is those critical skills, not how well you can research or present opinions from the literature. If you do consult sources, though, make sure to properly cite them.

# Critical Evaluation Assignment

Your second writing assignment focuses on identifying and critiquing an author's argument. This is an essential skill when evaluating problems in philosophy, especially when multiple authors take different stances to a problem or topic.

This assignment has the following goals:

1. Learn how to identify and represent another person's main argument.
2. Provide a critical analysis of an argument you've identified.
3. Identify and recognize how an author may respond to your critique of their work.

This assignment must be between 400-500 words. You can use any paper, video, or other material that we have examined in class. I will not accept assignments using sources outside of class material. I want you to focus on material we have already seen as this will help you be able to focus on representing the main arguments rather than trying to locate an interesting article, video, or other material. There will be plenty of time later in the course to explore and research, don't worry!

# Science Communication Project

Your third assignment focuses on identifying the appropriate tone to communicate with your audience. For this assignment I want you to pretend you have been hired by a science communication company. They have asked you to write your first article on one of the topics we covered in the first half of class. You can pick any of the topics we discussed in part 1, 2, or 3 of this course and you do not have to discuss your choice with me beforehand. You are welcome to reach out if you want help.

Remember you are focussing on topics, not an individual position. Make sure you engage with any relevant sources. Each day's topic is found under the date in the schedule section of this syllabus.

A critical aspect of effectively communicating with others is identifying the appropriate tone, cadence, flow, word choice, phrasing, etc. for whatever you are producing. This assignment will test you on your ability to appropriately communicate technical material to a general audience outside of academia.

You have several options for this assignment:

- You can write an op-ed style paper like what you would find on [The Atlantic](#) or [Live Science](#). Articles in this style are usually between 750-1000 words and focus on clearly describing interesting aspects of technical problems. They also highlight differing perspectives and potential problems for readers to mull over.
- You can write a short podcast script and record a podcast similar to what you may hear from [Science Vs](#) or [Why Aren't You A Doctor Yet?](#). Assignments taking this format should be no longer than 10 minutes and focus on engaging the listener in the intricacies of your chosen topic. If you choose to record with another person, make sure that you include in your script how you developed and/or researched your topic so I can ensure I am grading you (rather than your guest!).

- You can script and record a YouTube video similar to what you may watch on [AsapSCIENCE](#) or [Wireless Philosophy](#). Assignments taking this format should be no longer than 10 minutes and should focus on engaging the viewer in the topic you've chosen. You do not need to record yourself. If you choose this option, I'm happy to see videos taking an overhead whiteboard style, or even animation (but please, don't stress too much on the production quality/level!).
- You can also approach me with another format style if you're interested in some other kind of format for a general audience.

## Final Project

Your final project combines all of the skills you have learned throughout the course to demonstrate your understanding of some topic from part 4 of the course. I will evaluate you on:

- How well you articulate your own position (from assignment 1),
- How well you represent the positions of others (from assignment 2), and
- How well you identify your audience (from assignment 3).

There are two parts to this final project. First, you need to write a proposal for your topic. Second, you complete the project outlined in your proposal.

For the proposal, you must contact me to discuss your intended topic. This can be in a meeting or through email. Our chat can happen at any point in the semester. Make sure you give yourself ample time to write the proposal, though, since it is **due by March 16**. Remember that the closer it gets to this deadline the more people will likely be asking me for meetings. It is your responsibility to schedule an appointment with me, so if you wait too long and I am fully booked, that is on you. So, the earlier you contact me the better.

The purpose of this meeting is not to limit your creativity or stifle your interests. Rather, I want to make sure you have chosen something appropriate for this course and that you aren't taking on too large of a project. I want you to succeed, and this meeting is meant to help set you on the right path. After we discuss your topic, you need to submit a short proposal outlining: the thesis, the format of the project, how you're structuring it, and at least one problem or objection you want to consider.

For the project itself, you are free to choose any topic we will discuss in part 4 of the course. Your goal is to communicate to an academic audience your stance on this problem, why it is worth debating, and any ethical issues that arise from the use of AI in this problem.

Your project can take any of the following formats:

- You can write a traditional academic final essay. Projects taking this format should be no more than 1250 words with proper academic citations and formatting.
- You can create a video report / mock lecture on your topic. Projects taking this format should be no more than 10 minutes and accurately reference the readings you've chosen as sources throughout. You will need to submit a list of references consulted just as if you submitted a traditional essay.

- You can script and record an academic oriented podcast like you might hear from [The Partially Examined Life](#) or [Philosophy Bites](#). Projects taking this format should be no more than 10 minutes and accurately reference the readings you've chosen throughout. You will need to submit a list of references consulted just as if you submitted a traditional essay.
- You can create an academic poster like you might see at a conference. These projects should remain electronic, as if you were submitting to a conference for them to display.
- You can create an art piece / dialogue / skit on your topic, so long as it is geared for an academic level audience. Projects taking this format will have their parameters set in our meeting (as this is a highly variable category). You will need to submit a list of references consulted just as if you submitted a traditional essay.

Any project submitted without first consulting me will be significantly penalized, as this means you will have missed a crucial criterion of the project itself.

## Bonus: Annotated Bibliography

During this course, and while working on your projects, you will encounter many different sources of information on your topic. If you keep an annotated bibliography of any sources you explore (not necessarily just those you use), you can earn up to 5% bonus on your final grade. This bonus is applied to the final course mark after all assignments are calculated. So, for example, if you end the class with a 75% (B) and you submit a detailed annotated bibliography you could end the course with an 80% (A-) instead. This annotated bibliography can include assigned materials from the course.

## Schedule

Date	Materials	Due
<b>Part 1:</b>	<b>Minds as Machines, machines as minds?</b> This section will introduce the philosophy of mind as well as providing an introduction to machines and AI. We will also consider how we know others have minds and how to live with this knowledge.	
Jan 5 Introductions	Syllabus	
Jan 7 Concepts	Lecture video: "What is a mind?" "What is AI?" (1) Rescorla. (2020). " <a href="#">The Computational Theory of Mind.</a> " (2) Smart. (2007). " <a href="#">The Mind/Brain Identity Theory.</a> " (3) CrashCourse. (2019, August). " <a href="#">What Is Artificial Intelligence? Crash Course AI #1.</a> "	

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Jan 12  
Other Minds

Avramides. (2019). [“Other Minds”](#)

Course  
Preferences

Jan 14

Lecture video: “Case Discussion & Wrap-Up”

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**Part 2:**

**Consciousness and Extended Minds**

For these two weeks we will consider minds in greater detail. More specifically, we will explore extended consciousness, a human consideration, and general machine consciousness where no human is involved.

Jan 19  
Human Minds

(1) Clark and Chalmers. “The Extended Mind.”  
(2) Gertler. “Overextending the Mind.”

Early Position  
Debate

Jan 21  
Machine Minds

Lecture video: “Can Machines Think?”  
“The Problems of AI Consciousness.”

(1) Gobble. (2019). “The Road to Artificial General Intelligence.”  
(2) Schneider. (2019). “The problem of AI consciousness.”  
Chapter 2 of *Artificial You: AI and the Future of Your Mind*.

Jan 26  
Zombie Minds

(1) Kirk. (2019). [“Zombies.”](#)  
(2) Schneider. (2019). “How to catch an AI zombie: Testing for consciousness in machines.” Chapter 4 of *Artificial You: AI and the Future of Your Mind*.

Jan 28

Lecture video: “Case Discussion & Wrap-Up”

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**Part 3:**

**Machine Ethics**

Do we have duties to robots? Do they have duties to us? This section of the course outlines the basic ethical considerations at play when discussing AI. We will start with an ethics crash course and the three laws of robotics. We then consider whether science is value-free, whether machines can be moral agents, and various problems.

Feb 2  
AI and Ethics

(1) Asimov. (1950). “Runaround.”  
(2) Anderson. (2017, March). [“After 75 years, Isaac Asimov's Three Laws of Robotics need updating.”](#)

Feb 4  
Values and Agents

Lecture video: “Value-Free Science?”  
“Machines as Moral Agents.”

(1) Douglas. (2000). “Inductive Risk and Values in Science.”  
(2) Sharkey. (2017). “Can robots be responsible moral Agents? And why should we care?”

Feb 9 Problems (1) Wellner and Rothman. (2019). "Feminist AI: Can We Expect Our AI Systems to Become Feminist?"  
(2) Zou and Schirbinger. (2018, July). "[AI can be sexist and racist -- it's time to make it fair.](#)"  
(3) Buolamwini. (2019, February). "[Artificial Intelligence Has a Problem With Gender and Racial Bias. Here's How We Solve It.](#)"

Feb 11 Lecture video: "Case Discussion & Wrap-Up" Critical Evaluation

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**READING WEEK – NO CLASSES**

Feb 16 & 18

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**Part 4: Applications**  
For the second half of class we will cover the topics you find most interesting. I will revise this section with the readings and videos once we have chosen our topics.

Feb 23

Feb 25

Mar 2

Mar 4 Sci. Comm. Project

Mar 9

Mar 11

Mar 16 Final Project Proposal

Mar 18

Mar 23

Mar 25

Mar 30

Apr 1

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**Part 5: Final Course Review and Exam Period**

Apr 6		Annotated Bibliography
Apr 8	Lecture video: "Course Conclusions." "How to Explore This Topic Later On."	
Apr 13		Final Project

## Academic Policies

### General UBC Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

### Academic Integrity and Plagiarism

Academic honesty is essential to the continued functioning of the University of British Columbia as an institution of higher learning and research. All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action.

It is the student's obligation to inform themselves of the applicable standards for academic honesty. Students must be aware that standards at the University of British Columbia may be different from those in secondary schools or at other institutions. If a student is in any doubt as to the standard of academic honesty in a particular course or assignment, then the student must consult with the instructor as soon as possible, and in no case should a student submit an assignment if the student is not clear on the relevant standard of academic honesty.

If an allegation is made against a student, the Registrar may place the student on academic hold until the President has made his or her final decision. When a student is placed on academic hold, the student is blocked from all activity in the Student Service Centre.

A list of guidelines and expectations can be found in the [Academic Calendar](#).

To specifically discuss plagiarism: This is the use of someone else's work without giving proper credit and/or passing off someone else's work as you own. Plagiarism is a serious offence and will result in a **grade of zero** on the assignment. If multiple instances of plagiarism are submitted, it will result in an **"F" for the course as a whole**. If you are unsure what constitutes plagiarism, consult the UBC Guidelines in the [Academic Calendar](#).

## Academic Citations

There is no specific citation method for this course. Please feel free to use whichever citation or referencing style you are most comfortable with so long as you are consistent throughout your assignment. If you are unsure of how to cite or reference, here is [UBC's Guide](#).

## Academic Concession

If you experience unanticipated events or circumstances that interfere with your ability to accomplish your academic coursework, you may be eligible for academic concession. Full details about academic concession can be found on the [Student Services Enrolment webpage](#) and the [Faculty of Arts webpage](#).

If you are already registered with the [Centre for Accessibility](#) and your concession is related to your registered medical condition or disability, contact your Accessibility Advisor.

If your situation is related to an experience of sexual violence, you have the option of contacting UBC's [Sexual Violence Prevention and Response Office \(SVPRO\)](#) (604 822 1588) who can assist you with your academic concession.

If you need immediate emotional, mental, or physical support, find a [UBC health and wellness resource](#) to help you.

You may be eligible for academic concession when one or more of the conditions listed below unexpectedly hinders your ability to complete an assignment or participate in classes or an examination:

- [Medical circumstances](#)
- [Compassionate grounds](#)
- [Conflicting responsibilities](#)
- Technology issues

In all cases, your request for academic concession should be made as early as reasonably possible to your instructor or [Arts Academic Advising](#). If you are not an Arts student, you should consult with your home faculty for your concession.

## Accessibility and Accommodation

The University of British Columbia recognizes its moral and legal duty to provide academic accommodation. The University must remove barriers and provide opportunities to students with a disability, enabling them to access university services, programs, and facilities and to be welcomed as participating members of the University community. The University's goal is to ensure fair and consistent treatment of all students, including students with a disability, in accordance with their distinct needs and in a manner consistent with academic principles.

The University will provide academic accommodation to students with disabilities in accordance with the British Columbia Human Rights Code, R.S.B.C. 1996, c. 210 and the Canadian Charter of Rights and

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Freedoms, Part I of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (U.K.), 1982, c. 11. Provision of academic accommodation shall not lower the academic standards of the University. Academic accommodation shall not remove the need for evaluation and the need to meet essential learning outcomes.

Students with a disability who wish to have an academic accommodation should contact [Centre for Accessibility](#) without delay (see [UBC Policy LR7](#)).

## Student Support and Resources

UBC has many supports and resources dedicated to assisting students in times of need or who have questions. This includes: academics, money, immigration, health, career, and sexual assault support. These resources can be found on the [Student Services Supports Page](#).

## Conflicting Responsibilities

UBC recognizes that students may occasionally have conflicting responsibilities that affect their ability to attend class or examinations. These may include: representing the University, the province or the country in a competition or performance; serving in the Canadian military; or observing a religious rite. They may also include a change in a student's situation that unexpectedly requires that student to work or take responsibility for the care of a family member, if these were not pre-existing situations at the start of term.

Students with conflicting responsibilities have a duty to arrange their course schedules so as to avoid, as much as possible, any conflicts with course requirements. As soon as conflicting responsibilities arise, students must notify either their instructor(s) or their Faculty Advising Office (e.g. Arts Academic Advising), and can request academic concession. Instructors may not be able to comply with all such requests if the academic standards and integrity of the course or program would be compromised.

Varsity student-athletes should discuss any anticipated and unavoidable regular-season absences with the instructor at the start of term, and provide notice of playoff or championship absences in writing as soon as dates are confirmed.

Religious observance may preclude attending classes or examinations at certain times. In accordance with the UBC Policy on Religious Holidays, students who wish to be accommodated for religious reasons must notify their instructors in writing at least two weeks in advance. Instructors provide opportunity for such students to make up work or examinations missed without penalty.

## Late Assignment Policy

Late submissions are accepted for most assignments. All late assignments will be penalized at the rate of **one grade increment** per day late, weekends included. This means an assignment that would have been an A will become an A- if one day late, a B+ if two days late, etc.

Due to the nature of the **course preference survey** and **the first reaction questions and comments**, I will not be able to accept any late submissions for these.

## Recordings of Lectures

Synchronous lectures will not be recorded. You need to attend these lectures to hear the material. No student may record a lecture without explicit permission of the instructor.

## Copyright

Instructor-generated course material (e.g., handouts, outlines, summaries, exam questions, etc.), including material posted on *Canvas* are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor.

This instructor checks the various resource websites for material from their course and will issue take-down orders if any material is identified. Disciplinary action may be taken against students distributing material in this manner.

# Potential Topics for After Reading Week

## AI as Big Brother, AI as Surveiller

- Facial recognition
- AI in policing
- AI surveillance

### Possible Materials

- Kosta. (2020). "Algorithmic state surveillance: Challenging the notion of agency in human rights."
- Joh. (2018). "Artificial intelligence and policing: first questions."
- Hillman. (2019, January). "[The use of artificial intelligence in gauging the risk of recidivism.](#)"
- Hao. (2019, January). "[AI is sending people to jail--and getting it wrong.](#)"

## AI in War

- "Autonomous" weapons?
- Should AI guided machines be used to kill?

### Possible Materials

- Roff. (2014). "The Strategic Robot Problem: Lethal Autonomous Weapons in War."
- Krishnan. (2016). "Weapons Autonomy and Artificial Intelligence." Chapter 2 of *Killer Robots: Legality and Ethicality of Autonomous Weapons*.
- Stop Autonomous Weapons. (2017, November). "[Slaughterbots.](#)"

## AI in Healthcare

- AI for decision-making
- AI and privacy
- Access to personal information to train algorithms

#### Possible Materials

- Vogel. (2017). "Plan needed to capitalize on robots, AI in health care."
- Abràmoff, Tobey, and Char. (2020). "Lessons Learned About Autonomous AI: Finding a Safe, Efficacious, and Ethical Path Through the Development Process."
- Aschwanden. (2020, January). "[Artificial Intelligence Makes Bad Medicine Even Worse.](#)"

## Love and Sex... with Robots!

- Can sex with robots be consensual?
- Loneliness and robot companionship
- Robots and the elderly

#### Possible Materials

- Eskins. (2017). "Is sex with robots rape?"
- Sparrow. (2017). "Robots in aged care – a dystopian future?"
- Morris. (2020, July). "[Please don't objectify sex robots.](#)"
- Sanyal. (2018, October). "[How is AI revolutionizing elderly care.](#)"

## Automation and Employment Anxieties

- Will automation take away our jobs?
- Automation anxiety
- AI in job applications

#### Possible Materials

- McQuay. (2018). "Will robots duplicate or surpass us? The impact of job automation on tasks, productivity, and work."
- Thibodeaux. (2017, November). "[This Artificial Intelligence Can Predict How You'll Behave At Work Based on Social Media.](#)"
- Chen and Hao. (2020, February). "[Emotion AI researchers say overblown claims give their work a bad name.](#)"

## Robot Rights

- Should machines have legal rights?
- Should machines be granted personhood?

#### Possible Materials

- Bryson. (2010). "Robots Should Be Slaves"
- Coeckelbergh. (2010). "Robot rights? Towards a social-relational justification of moral consideration."
- DiPaolo. (2019). "If Androids Dream, Are They More Than Sheep?: *Westworld*, Robots and Legal Rights."
- Birhane and van Dijk. (2020). "Robot Rights? Let's Talk about Human Welfare Instead."