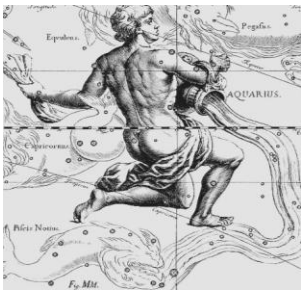
PHIL 337-001: Ethics for the Sciences Syllabus

Winter Term 1 2025

University of British Columbia



Delivery Method: Online synchronous lectures

Class Meetings: Tuesdays and Thursdays, 11:00-12:30 via Zoom

INSTRUCTOR INFORMATION

Instructor: Elena Holmgren

Email: elena.holmgren@ubc.ca

Office Hours: By Zoom. Please email to set up an appointment.

Teaching Assistant: Larry Blomme: larry.blomme@ubc.ca

COURSE INFORMATION

Description:

Science does not just study the world. Instead, it actively reshapes it. Because of this, science is an activity we can morally evaluate with regards to the degree to which it helps us create a world in which human well-being and the good life are possible. This course explores the moral dimensions and implications of science.

We will focus on the tight relation between science and our everyday lived experience of a shared way of life. On the one hand, we will explore how science reflects the world of experience by mirroring and amplifying its social and political values and biases. We will consider how these values shape scientific reasoning by exploring how scientists routinely rely on values and assumptions drawn from their lived experience when building models of phenomena as diverse as ecosystems, brain function, and the structure of living things. We will also consider the moral responsibilities that arise from the situatedness of scientific rationality in this shared world.

On the other hand, we will explore how science and technology shape how we see ourselves and our shared world. For example, we will explore how information technologies increasingly shape our self-understanding as developing agents and our understanding of the world as a space of possible moral action. By understanding this tight relation between science and everyday experience, we will develop the tools to think critically about how science reflects, reinforces, and reshapes social values. The hope is that by understanding the ethical dimensions of science as a force for restructuring our world, we can enhance our sense of agency in a radically changing world.

The course will be organized around the following questions:

- What, if any, is the relation between science and values? Do values influence how scientists construct representations and explanations of phenomena? And if they do, how?
- What counts as research misconduct? We can all probably agree that data fabrication does, but what about more subtle cases, such as biased representations of target phenomena?
- What ethical responsibilities do scientists have towards the people, animals, cultures and ecosystems they study?
- Should there be limits on scientific research that could lead to harm?
- How can we address systemic biases in scientific institutions?
- How can we use our understanding of the all-too-often covert interaction between science and values to better ensure that scientific research contributes to, rather than deters, the search for justice and collective well-being?
- How do we steer the scientific process so that it can shape a world that preserves and enhances our moral agency, rather than undermining it?

The course begins by exploring the interrelation between science and values. Our goal will be to make explicit and critically evaluate what usually remains implicit: namely, the subtle influence of values on scientific reasoning, representation, classification, explanation, modelling practices, data interpretation. We will explore the role that values play in determining what gets researched, how we research it, and what counts as sufficient evidence. We then discuss what constitutes scientific responsibility. This provides us with the theoretical tools we will apply to examine a variety of case studies drawn from the non-medical sciences.

The course is intended for an interdisciplinary audience ranging from the humanities, the social sciences and the natural sciences. Since there are no prerequisites for this course, no prior experience with philosophy will be assumed.

Learning Objectives:

The goal of this course is to give students a sense of what philosophy is like as an activity with its own characteristic set of skills. Upon successful completion of this course, you will be able to:

- Identify, explain, critically evaluate and construct arguments concerning the ethical implications of science;
- Identify and critically evaluate the strengths and limitations of arguments contained in philosophical texts;
- Practice active close reading: by trying to internalize other perspectives, you will cultivate your capacity to flexibly reframe your value-laden interpretations of evidence;
- Practice writing to clearly structure thought and offer justification for your position;
- Engage in dialogue by exercising ***the principle of charity***; that is, making the effort to understand others' perspectives in their strongest form (regardless of how antithetical to our own these views may be) prior to critiquing them.

Course Materials:

No textbook is required. All readings will be posted on our Canvas course website: https://canvas.ubc.ca/
The readings are located in "Modules" -> "Course Readings."

ASSESSMENTS

General Assignment Instructions:

All assignments test your understanding of content covered in this class. Thus, assignments should show evidence of engagement with the material *as covered in class*. That being said, be sure to explain the content *in your own words*, rather than merely replicating lectures.

Assignment and Date:	Weighting:
Test 1: Oct. 9	30%
Test 2: Nov. 6	30%
Take-Home Final Exam: ***Released***: Dec 9. ***Due***: Dec. 12.	30%

Weekly Group Discussion Worksheets: distributed during various class periods; dates not announced ahead of time.	10%

2 Tests:

Each test consists of a list of two or three prompts for which you must construct long answer/mini-essay-style responses. The first two tests will be closed-book and must be completed in class (over Zoom). For the tests, you are responsible for all the required readings and class lectures.

Take-Home Final Exam:

The final take-home exam will be released on Dec. 9 and will be ***due on Dec. 12***. It will consist of a list of two or three prompts, from which you are to select **one** and construct an essay response to it. The purpose of the final exam is to give you a chance to gather together your thoughts on some big-picture themes we will have explored together throughout the course, to form a coherent stance on that issue and to then defend it.

Note: The take-home final exam *must* be completed through Google Docs *and be submitted along with a record of the document's version history*. Submit the file on Canvas, in the Quizzes App, by providing a link to the Google Docs file, so that the document's version history can be reviewed by the instructor and TA. ***Do not* submit as a PDF or any other file format as these do not include the document's version history.**

Any student who submits a take-home final where the version history cannot be accessed may be asked to schedule an additional 15-20 minute oral examination in which they are asked to justify their writing choices, thereby demonstrating that they completed the assignment without AI assistance. More detailed instructions will be provided in due time.

A list of prompts that closely resembles the one you will receive for the final will also be released a week ahead of time, on Dec. 1. I suggest beginning to construct outlines for two of these as soon as you receive them. I am happy to provide feedback on your outlines for the final prior to submitting it for grading. If you'd like feedback on your work so that you can improve it before submitting it, please email it to me *no later than 48 hours* prior to the deadline, so that I can have a chance to respond with detailed and helpful feedback. If you're stuck on any part of the assignment at any stage of the writing process, you can also email me any time with questions, and I am happy to help get you unstuck. However, the sooner you contact me, the better the chances that you'll get in contact with me and have adequate time to implement the feedback. More instructions on how to prepare for this assignment will be provided in due time.

Group Discussion Worksheets:

Philosophy is best learned through practice and dialogue. To this end, active participation in our regular discussion activities is essential. These activities are designed to help you develop the critical thinking skills that are essential not just for doing well in this course and on the assignments, but also for learning to do philosophy for yourself, which ultimately matters more than simply memorizing and reproducing the results of other people's philosophizing.

The discussion activities are also designed to train your ability to articulate your views clearly, to provide argumentative support for your views, to question your most taken-for-granted assumptions, and to internalize other perspectives (as opposed as they may seem to your own!) before identifying their strengths and shortcomings. Students are expected to engage respectfully with all opposing views presented in class discussions.

Your grade for this course component will be based on the level of your constructive engagement in the weekly discussions, and on your completion of **10 discussion worksheets (11 will be distributed in total)**. Discussion worksheets will be graded on a Pass/Fail basis, and each is worth 1%. You must attend class and participate in the discussion to submit your worksheet.

EXPECTATIONS

I expect you to come to class prepared to discuss the assigned readings, take notes, ask questions, complete assignments on time, practice academic integrity, and engage in respectful and productive reasoned dialogue with peers.

Email me *any time* if you require any clarification at all, or if you just wish to chat about philosophy!

Regular Lecture Attendance and Good Study Habits:

Since each and every lecture is designed to give you the theoretical tools needed to unpack the course readings and prepare you for the assignments, regular attendance is necessary to do well in this course. If you miss any class, you are responsible for acquiring any content we covered, either by referring to the slides posted on our Canvas website, by asking a fellow student to share their notes, or by emailing me or by setting up a Zoom appointment with me. Note that generative AI or Google cannot replace the information you get through regular attendance and quality note-taking.

Taking detailed notes is essential for cementing your understanding of the content. It is also advisable to review and organize your notes regularly by highlighting important overarching themes that came up, as well as summarizing (in your own words) the different theorists' takes on these themes. Then, make note of any ***key claims*** made by the authors we have discussed, as

well as noting the ***key arguments*** they have presented in support of those claims. Also, make note of any ***definitions*** introduced, as well as of any ***examples*** that helped clarify any key concepts we covered. Lastly, make sure to take note of the areas where you ***agree*** and ***disagree*** with the authors. For each major author and theory we cover, jot down the "pros" and "cons" of adopting their view. Doing all this will greatly assist you when preparing for the tests.

Active Close Reading:

Students are expected to read all assigned materials before the start of the first class of each week. Readings are essential preparation for our discussion activities.

Few things train and focus the mind quite as well as the practice of close reading does. This practice involves two complementary movements of thought: the first "zooms in" to closely analyze and evaluate the various steps in an argument, while the second "zooms out" to consider how the passage at hand, and the text as a whole, each shed light on significant big-picture themes. As we go through the course, you will have ample chance to work on cultivating these close reading skills.

These can be quite challenging and richly-layered texts. Thus, aim to read each assigned work *at least twice*: first, read it once over to get a general "bird's eye" overview of the topics discussed. Then, re-read it at least one time to get a more detailed grasp of the different steps in the argument/s presented.

In order to *read actively*, briefly summarize the key points of the reading in your own words. Focus your reading by identifying the core claim (or conclusion) that the author is trying to argue for. Then, identify the claims provided in support of that conclusion. Can you identify any problems with any of these claims? If so, make note of them.

SCHEDULE

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK	TOPICS and ACTIVITIES	READINGS
1. Sept. 4	***No class Sept. 2: Imagine Day UBC*** Introduction to the Course; The Role of Values in Scientific Practice	-Kitcher, "The World as We Make it" -Douglas, "The Importance of Values for Science"

2. Sept. 9-11	The Multiple Aims of Science	-Potochnik, “The Diverse Aims of Science” -Elliott, “Nonepistemic Values and the Multiple Goals of Science”
3. Sept. 16-18	Ethical Constraints on Scientific Inquiry	-Kitcher, “Constraints on Free Inquiry” -Elliott and McKaughan, “How Values in Scientific Discovery and Pursuit Alter Theory Appraisal”
4. Sept. 23-25	Values in Scientific Reasoning	-Douglas, “Inductive Risk and Values in Science” -Longino, “Beyond ‘Bad Science’: Skeptical Reflections on the Value-Freedom of Scientific Inquiry”
5. Sept. 30- Oct. 2	***No Class Sept. 30 - Truth and Reconciliation Day*** Values in Scientific Reasoning, Cont’d	-Brigandt, “Social Values Influence the Adequacy Conditions of Scientific Theories: Beyond Inductive Risk" -Ludwig, “Ontological Choices and the Value-Free Ideal”
6. Oct. 7-9	**TEST 1 - OCT. 9** In Defense of the Value-Free Ideal; Intro to Responsibility in Science	-Hudson, “Why We Should Not Reject the Value-Free Ideal of Science” -Douglas, “The Moral Terrain of Science”
7. Oct. 14-16	Responsibility to Human and Animal Research Subjects	-McArthur, “Good Ethics Can Sometimes Mean Better Science: Research Ethics and the Milgram Experiments” -Singer, “All Animals Are Equal” -Walker, "Human and Animal Subjects of Research: The Moral Significance of Respect Versus Welfare"
8. Oct. 21-23	Responsibility to Cultural Groups Science and Justice	-Toombs et al., “A Scoping Review of Indigenous Community-Based Research Practices, Guidelines, and Ethical Standards” -Ottinger, “Changing Knowledge, Local Knowledge”

9. Oct. 28-30	Neuroethics	-Levy, “Neuroethics” -Beauvais et al., “A Marathon, Not a Sprint – Neuroimaging, Open Science and Ethics”
10. Nov. 4-6	**Test 2 - NOV. 6** How Science Reshapes Our Informational Environment	-Trappes & Leonelli, “Conceptualising Research Environments Using Biological Niche Concepts"
11. Nov. 13	***No class Nov 11 - Remembrance Day**** Science and Algorithmic Bias	-Tsamados et al., “The Ethics of Algorithms - Key Problems and Solutions”
12. Nov. 18-20	How Science and Information Technology Reshape Agency	-Langdon Winner, “Technologies as Forms of Life” -Floridi, “Ethics after the Information Revolution.”
13. Nov. 25-27	AI Ethics	-Floridi, “The Morality of Artificial Agents” -Milano & Prunkl, “Algorithmic Profiling as a Source of Hermeneutical Injustice.”
14. Dec. 2-4	Science and Policy Change	-Elliott, “How Can We Engage Values?”

POLICIES

Academic Integrity:

By enrolling in this course, you are responsible for familiarizing yourself and complying with the university’s policy on academic integrity. Ignorance is no excuse. As a part of a research community, you are responsible for engaging with existing knowledge and contributing ideas of your own. Academics—including you!—build knowledge through rigorous research that expands on the contributions of others, both in the faraway past and around the world today. This is called scholarship. However, when another person's words (i.e. phrases, sentences, or paragraphs), ideas, or entire works are used, the author must be acknowledged in the text, in footnotes, in endnotes, or in another accepted form of academic citation. Where direct quotations are made, they must be clearly delineated (for example, within quotation marks or separately indented). Failure to provide proper attribution is plagiarism because it represents

someone else's work as one's own. Plagiarism should not occur in submitted drafts or final works. A student who seeks assistance from a tutor or other scholastic aids must ensure that the work submitted is the student's own. Students are responsible for ensuring that any work submitted does not constitute plagiarism. Students who are in any doubt as to what constitutes plagiarism should consult their instructor before handing in any assignments.

A Note About Generative AI Use:

Education is not (just) about generating a product (papers, exams). It is also, even more crucially, about engaging in the process of shaping yourself to have a broader repertoire of skills. Skipping the (necessarily) effortful process by offloading cognitive effort onto AI (i.e. getting it to think for you) may feel like an efficient shortcut to achieving the short-term goal of finishing that tiresome paper. However, by skipping the process, you are robbing yourself of the chance to develop the critical thinking skills you need in the long run to navigate and flexibly adapt to an increasingly complex, fast-paced information economy.

Also, AI frequently hallucinates. The task of distinguishing its hallucinations from the occasions it stumbles upon the truth lies with you, the user of AI. However, you need a great deal of subject knowledge to be able to do so. Thus, to rely on AI when learning about any given topic, you'd have to already have enough knowledge about that topic to parse its hallucinations from what is of value. ***To rely on AI to acquire knowledge about a subject, you must already have sufficient knowledge about that subject.*** Ask yourself: are you willing to risk basing your intellectual development and your education on AI hallucinations?

Lastly, the TA and I want to read *your* thoughts, not those of a piece of technology.
Bottom line:

> **OK use of AI in this course:** First generating a complete draft by relying *on your own intellect* and *only then* using AI to give you feedback on how to improve the grammar, spelling and structure of your piece.
>
> **NOT OK use of AI in this course:** Relying on AI to produce *any* content for you (e.g. generating ideas or writing for you). Whenever you do so, you must acknowledge this through a citation. Failure to do so will result in a grade of 0 on that assignment.

Academic Misconduct:

https://vancouver.calendar.ubc.ca/campus-wide-policies-and-regulations/student-conduct-and-discipline/discipline-academic-misconduct/3-academic-misconduct-ubc-students

Academic misconduct includes any conduct by which a student gains or attempts to gain an unfair academic advantage or benefit thereby compromising the integrity of the academic process, or helping or attempting to help another person commit an act of academic misconduct or gain, or attempt to gain, an unfair academic advantage.

Academic Concession:

If you miss an in-class test for a reason that the university recognizes as warranting a concession (e.g., illness, family emergency, religious observation, etc.), immediately submit a Student Self-Declaration form to me so that your in-term concession case can be evaluated. You can download the form here:

https://www.arts.ubc.ca/wp-content/uploads/sites/24/2019/10/Student-Self-Declaration-Form-1.6-Arts.pdf

If this is not the first time you have requested concession or classes are over, fill out Arts Academic Advising's online academic concession form immediately, so that an advisor can evaluate your concession case. If you are a student in a different Faculty, please consult your Faculty's webpage on academic concession, and then contact me where appropriate.

Academic Accommodation:

Academic accommodations help students with a disability or ongoing medical condition overcome challenges that may affect their academic success. Students requiring academic accommodations must register with the Centre for Accessibility (previously known as Access & Diversity). The Centre will determine that student's eligibility for accommodations in accordance with Policy LR7: Academic Accommodation for Students with Disabilities. Academic accommodations are not determined by your instructors, and instructors should not ask you about the nature of your disability or ongoing medical condition, or request copies of your disability documentation. However, your instructor may consult with the Centre for Accessibility should the accommodations affect the essential learning outcomes of a course.