

Syllabus – PHIL 125, Introduction to Scientific Reasoning

Time - M, W, F, 2-3pm

Location - CEME 1202

Teachers

Jas Heaton (they/she) - Instructor

jaspers@mail.ubc.ca

Office hours TBA (drop in or appointment)

Desmond Wood-Anderson (he/him) - Teaching Assistant

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Office Hours TBA

Course Overview

The advent of science and scientific reasoning is heralded as a significant event in human history, one that many people think marks the true start of “modern civilization” that pulled humanity away from its “superstitious” and “primitive” pre-modern belief systems. In this class we will explore the question of what makes science and scientific reasoning distinct from the other methods people use to acquire their beliefs (e.g. superstition, pseudo-science etc.). We will look at the central roles of causal and inductive reasoning in science, and ask whether they are rational forms of reasoning. We’ll then turn to the idea that scientific reasoning is objective, and open up the question of whether it really does have this status. The objectivity of science is one of its most revered features, and supposedly explains how the scientific method leads to such a proliferation of knowledge. We will open up the question of whether science really is objective, and explore what an objective science could look like. Finally, we will consider how assumptions about science and scientific reasoning have perpetuated our ignorance, and what could be done to improve and refine the scientific method.

Learning Activities

Primary learning activities in this course will be:

- Reading course materials and attending lectures
- Participating in discussion sections
- Writing assignments
- Participating in peer review sessions for assignments

I also strongly encourage you to attend office hours.

Course Aims and Learning Outcomes

By the end of this course students will:

- Be familiar with traditional conceptions of scientific reasoning
- Be familiar with feminist critiques of those traditional conceptions
- Be able to analyze an author’s writing and identify their argument
- Be able to construct and motivate their own arguments

- Be able to articulate their thoughts in a clear philosophical manner
- Be able to write a philosophical essay

Assessment

All assignments should be submitted on Canvas.

There is no final exam for this course.

Participation — 40% of total grade

- Weekly reading responses. 25% of participation grade. 2-3 sentence response to a reading from that week. **DUE** before class each Friday
- Weekly discussion responses. 25% of participation grade. 2-3 sentence summary of Friday discussion. **DUE** at the end of class each Friday
- Peer Review. 50% of participation grade. Providing feedback to student essay drafts

Essay Using ChatGPT — 30% of total grade

Compare and contrast two A.I. generated essays

Due Nov 10th by 11.59pm

Final Essay — 30% of total grade

An essay on a topic of your choice

Due Dec 11th by 11.59pm

Content Warning and Classroom Policy

In this course we will cover a number of topics, issues, and real world events that may have affected the personal lives of students taking this course and the teachers teaching it. While it is important that we be able to freely pursue academic inquiry into these issues, it is equally important we be attentive and sensitive to the different ways people might be affected by these issues and by our study of them. As a student it is your right to bring your personal and lived experiences to your studies in this course. It is also your duty to be respectful of other people's experiences, no matter how different they are from your own. At its best the study of philosophy is collaborative, constructive, and respectful of individuality. I hope that throughout this course we will all do our best to embody these norms.

University Policies and Support

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](#).

Policy on Late Work

You are expected to submit your assignments by the due date. Failure to do so may result in late penalties or a fail grade for the course.

If **FOR ANY REASON** you are not able to submit your work on time **please contact either myself or the TA** to request an extension.

Plagiarism

Plagiarism, which is intellectual theft, occurs where an individual submits or presents the oral or written work of another person as his or her own. Scholarship quite properly rests upon examining and referring to the thoughts and writings of others. 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.

Policy On The Use Of A.I. (ChatGPT etc.)

(1) You **ARE permitted** to use A.I. for your writing assignments **as an EDITING TOOL only!** I know some people find this software helpful especially when writing in a second language, and this kind of usage is fine. If you do use A.I. please indicate at the start of your essay how you used the A.I. and what changes you allowed it to make.

(2) You **ARE NOT permitted to use A.I. to GENERATE the text of your assignments!** The ChatGPT essay assignment does involve you using ChatGPT to generate essay content. This is the only context in this course where you are permitted to use generative A.I.

Copyright

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Schedule, Topics, and Readings

Topic – What is Science? The Basics

Week 1, Sept 4-8

Igor Douven, [Abduction](#), section 1, 1.1, and 1.2

Week 2, Sept 11-16

Sven Ove Hansson, [Science and Pseudo-Science](#)

Week 3, Sept 18-22

Thi Nguyen, [Echo Chambers and Epistemic Bubbles](#)

Week 4, Sept 25-29

Kyle Stanford, [Underdetermination of Scientific Theory](#), sections 1, 2 (2.1 and 2.2)

W. V. O. Quine, [Epistemology Naturalized](#), pp. 259-274

Week 5, Oct 2-6 - **No class Monday, Truth and Reconciliation Day**

David Hume, [An Enquiry Concerning Human Understanding](#), Sect IV and V (pp. 18-40)

Week 6, Oct 9-13 - **No class Monday, Thanksgiving, Oct 12th for Make-up Monday**

David Hume, [An Enquiry Concerning Human Understanding](#), Sect VII (pp. 42-55)

Topic – We Are the Scientists

Week 7, Oct 16-20

Rene Descartes, [Meditations 1 and 2](#),

Heidi Grasswick, Section 2, [Social Models of Knowers](#)

Topic – Science and Objectivity

Week 8, Oct 23-27

Heather Douglas, [Rejecting the Ideal of Value-Free Science](#)

Thomas Kuhn, Objectivity, [Value Judgement, and Theory Choice](#), excerpts

Week 9, Oct 30-Nov 3

Patricia Hill Collins, [Toward an Afrocentric Feminist Epistemology](#)

Alison Wylie, [Why Standpoint Matters](#)

Topic – Ignorance and Expertise

Week 10, Nov 6-10 - **ChatGPT Essays Due, Friday class for peer review session**

Charles Mills, [White Ignorance](#)

Gaile Pohlhaus, [Relational Knowing and Epistemic Injustice: Towards a Theory of Willful Hermeneutical Ignorance](#)

Nov 13-17 - MIDTERM BREAK

Week 11, Nov 20-24

Readings, Anna Cook, [Recognizing Settler Ignorance in the Canadian Truth and Reconciliation Commission](#)

Week 12, Nov 27-Dec 1

Julie Cruikshank, [Do Glaciers Listen?: Local Knowledge, Colonial Encounters, and Social Imagination](#) - sections TBD

Week 13, Dec 4-6 - **Last class is Wednesday, for peer review session**

Finishing Julie Cruikshank

- sections TBD

Final Essay Due December 11th