

Philosophy 369/001: Philosophy of Science

University of British Columbia

Department of Philosophy

Fall 2021

MWF 10-11, West Mall Swing Space 107

<u>Instructor</u>	<u>Office</u>	<u>Telephone</u>	<u>E-mail</u>	<u>Office Hour</u>
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Description: This course is an introduction to some of the major concepts and issues in contemporary philosophy of science. The orientation of the course (as reflected in the readings) is primarily philosophical, rather than historical. The first part of the course is concerned with the nature of evidence and scientific knowledge. Our main topics in this part of the course are the problem of induction, objectivity and values in science, and the confirmation of scientific theories. The second part of the course focuses on broadly metaphysical themes: explanation and causation, laws of nature, and scientific realism. We conclude with a brief discussion of the role of thought experiments in science.

Typically, there is a mix of philosophy majors/honours students and science students in this course. That creates great potential for interesting discussions, but the success of the course depends upon your involvement.

I. Course learning objectives.

- 1) You will be able to discuss and evaluate some of the central philosophical issues and arguments that emerge from recent scientific practice and from contemporary philosophy of science.
- 2) You will be able to write well-conceived philosophical essays about some of these issues, progressing from short answers (first two assignments) to a carefully structured final paper.

II. Texts.

[CCP] *Philosophy of Science: The Central Issues*, 2nd ed., J. A. Cover, M. Curd and C. Pincock (Norton, 2012). Available in bookstore.

[X] Extra material provided by instructor. Materials will either be on Canvas On Line Course Reserve (use OLCR link on Canvas) or online and linked to the syllabus.

Please do all readings *before* lecture, so that we can have a good class discussion. We'll discuss roughly two papers per week, though this will vary.

III. Requirements. The final grade will be based upon the following scheme:

	<u>Weight</u>
Short essay (1200 words/4 pages), due Oct. 4	10%
Take-home mid-term test , due Oct. 25	20%
Term paper (3000-3600 words/10 pages), due Nov. 19/Dec. 6	35%
Final exam (exam period)	35%

Short essay and mid-term: Students will have ten days to complete the short essay and ten days to complete the take-home mid-term test. Both of these assignments must be submitted online (via email or Canvas) on the date indicated.

Term paper: Sample topics will be provided by **Oct. 27**, although I encourage students to propose their own topics (by **Nov. 15**). You will be asked to submit a one-page outline by **Nov. 19** (worth 5%), followed by the paper on **Dec. 6** (worth 30%). I strongly encourage you to discuss your term paper with me, either by email or in an office hour (see below).

The **late penalty** for all assignments is 5% per day, but no assignment will be accepted after five days beyond the due date, unless there is clear reason for academic accommodation. In particular, note that the one-page outline of the term paper must be submitted by **Nov. 19** to receive credit.

Final exam. There will be a two-hour final examination during the exam period. More details will be provided during the course.

IV. Online component.

Some aspects of online teaching were popular, including recorded lectures and online office hours. If it is possible to find a convenient way to record and post the lectures, I'll try to do this. For office hours, my plan is to have one in-person and one online office hour per week, but I welcome your suggestions.

V. Course organization. You will need to organize your schedule to keep on top of the material and the assignments. The key organizational tool is the **Canvas page**. In addition to the lectures, there are multiple ways to learn the course material, as follows:

- **Independent reading.** As with any course, you will learn through careful reading of the assigned material, following the schedule posted below ([Lecture and Assignment Schedule](#)).
- **Posted lecture overheads.** Lecture overheads will be posted in the "Modules" section of Canvas. I'll aim to put these up in advance of the actual lectures. The overheads typically do not capture everything that is covered in the lectures.
- **Posted handouts and assignments.** Copies will be posted in the "Modules" section of Canvas.
- **Office hours.** I will have one in-person (M 1-2) and one online (W 2-3) office hour per week, scheduled via the Zoom section of Canvas. If you require a confidential discussion, please send me an email message and we can set up a private meeting either in person or using Zoom.
- **Canvas Discussion.** I encourage you to raise questions of general interest using the **Discussion** section of Canvas. (*possibly Piazza)

VI. Course calendar. The course calendar on Canvas lists all assignment dates, apart from the final exam. This course syllabus also includes a [Lecture and Assignment Schedule](#) that lists assignment dates, topics and readings for each class.

VII. Announcements. Please read carefully all announcements posted throughout the term. These will include course updates, information about upcoming assignments, changes to assignments or due dates, corrections, and important alerts. They will remain posted in the **Announcements** section of Canvas.

VIII. Assignments: submission and records.

Most assignments, even where copies are distributed in class, will be administered through the **Assignments** tab in Canvas. The **short paper**, **Midterm test**, **term paper proposal** and **term**

paper must be submitted as pdf file uploads, by the posted deadline, using the portal in the **Assignments** section. (This is subject to change: I may set up submission of term papers via Turnitin.com.) The **final examination** will be held in person.

Assignment grades will be recorded and posted to Canvas in the **Grades** section. **Important:** although the grades will be accurate, please ignore any cumulative grade scores computed by Canvas. I will use a separate spreadsheet to compute cumulative grades. Please inform me of any discrepancies between assignment grades on Canvas and your own records.

General policies and other matters:

Academic accommodation: [UBC Access & Diversity](#) works with all instructors to provide appropriate accommodation for students with disabilities. Please notify Access and Diversity of your situation well in advance of any assignment due dates, and please feel free to discuss with me any way in which I can be of assistance.

For those new to philosophy, there is a [Philosophy Essay clinic](#) that offers help for those who wish to improve their philosophical writing skills. The website will be updated with the names and schedule of the instructors. I also encourage you to speak to me during my office hours.

Students are responsible for ensuring that they understand and abide by the [UBC regulations concerning academic misconduct](#) and **plagiarism**. Plagiarism is a very serious academic offense. If you are unsure about any issues relating to academic integrity, please consult with me or with your academic advising office. In particular, **all work done on take-home tests and papers must be your own.**

Statement of UBC values and 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 and cultural 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 [here](#).

LECTURE AND ASSIGNMENT SCHEDULE

Week of: Topic Readings

I. Science and pseudoscience

Sept. 6 Demarcation problem [CCP] 3 (Popper);
[X] Hansson, "[Science and Pseudo-Science](#)"

First class Sept. 8

II. The Problem of Induction

Sept. 13 Induction [CCP] 406 (Popper); [CCP] 412 (Salmon)

III. Science, Values and Objectivity

Sept. 13 Kuhn [CCP] 79 (Kuhn)

Sept. 20 Kuhn (cont'd) [CCP] 79 (Kuhn); [CCP] 94 (Kuhn)
Values in science [CCP] 144 (Longino)

Short essay topic assigned (Sept. 24)

Sept. 27 Values in science (cont) [CCP] 144 (Longino)
[X] Douglas, "Inductive Risk and Values in Science"

IV. Probability and Confirmation

Sept. 27 Confirmation and [X] Salmon and Earman, "The Confirmation of
Induction Scientific Hypotheses", 2.1 - 2.2

Oct. 4 Confirmation and [X] Salmon and Earman, "The Confirmation of
Induction (cont'd) Scientific Hypotheses", 2.3 - 2.6
Note: Some sections of Salmon and Earman will be
omitted; this will be explained in Canvas Announcements

Short essay due (Oct. 4)

Oct. 11 Bayesian approach [CCP] 518 (Salmon)

NO CLASS Oct. 11 (Thanksgiving)

Take-home midterm test distributed (Oct. 15)

IV. Explanation and Causation

Oct. 18 Salmon [X] Salmon, "Scientific Explanation", 1.1 - 1.17

Oct. 25 Causation and [CCP] 711 Kitcher
Explanation [CCP] 735 Woodward
[X] Dowe, "Causes are Physically Connected to their
Effects"

Mid-term test due (Oct. 25)

