



FACULTY OF ARTS  
DEPARTMENT OF PHILOSOPHY

**PHIL 567.4 Lec 01**  
**Advanced Topics in Philosophy of Science (Scientific Practice)**  
**Winter Term 2017**

**Tuesdays 12:30-3:15 pm in SS1253**

**Course Outline**

**Instructor:** Ken Waters  
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**Office Hours:** By appointment

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**Email:** [ckwaters@ucalgary.ca](mailto:ckwaters@ucalgary.ca)

**Instructor:** Marc Ereshefsky  
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**Course Description**

This course is paired with a graduate research seminar (PHIL 667) that meets at the same time. Our topic is the epistemology of scientific practice. Philosophers of science typically assume that science has a fundamental aim, namely to describe and explain the world. For example, many philosophers think the aim of science is to explain how phenomena fit into a fundamental structure of the world. This kind of assumption underpins the idea that the primary aim of philosophy of science is to analyze the descriptions and explanations of science, and that its secondary aim is to understand how scientific practices generate and justify them. In this course, we will not assume that science has a fundamental aim. Instead, we will entertain the possibility that science has many basic aims. How should philosophers identify these aims? By examining the practices of science. We will examine scientific practices in order to identify the aims they seem designed to serve and to analyze whether the practices can indeed achieve these purported aims. These practices include data collecting, experimenting, classifying, and modeling. The aims of these practices could include manipulation and control as well as description and explanation. The basic objective of this course is to investigate how knowledge should be understood in the context of actual scientific practice.

**Prerequisites**

Two previous courses in Philosophy, one of which must be 201, 395, 421, 423, 461, 463, 467, 481 or 483 and one of which must be at the 400 level, or higher.

**Course Learning Outcomes**

- Deep knowledge of one central area of philosophical inquiry;
- Ability to critically digest, interpret, and analyze complex sources;
- Ability to identify and articulate questions for discussion and investigation;
- Ability to engage in constructive philosophical discussion of peers' ideas;
- Ability to write a convincing argument that takes adequate account of alternative positions;
- Ability to help peers develop their positions and arguments;
- Ability to use feedback from others to improve one's own positions and arguments;
- Ability to engage in constructive, respectful oral and written argumentation.

## **Course Work**

### Eight Written Preparations on Gateway and Topic Area Readings

Students are required to write and submit a question at the beginning of each class. You should develop a question for each reading that could provide a basis for class discussion and possibly lead to a paper topic. Your written prep should have four separate parts: (a) a description of the background that will put your question into a broad context; (b) a very clear exposition of your question; (c) an explanation of why your question is important; and (d) a one-sentence summary of your question. The one-sentence summary does not need to provide background or motivation. Written preps should be 200 – 300 words in length. Please label the parts of your written prep as follows: a. Background to question; b. Exposition of question; c. Why this question is important; d. Summary of question.

The question may be remedial, seeking an account of an important claim or argument in the reading that you could not follow. Or the question could be more critical in nature, alluding to a weakness in the reading. Or the question could be probing, identifying an issue that is raised by the reading, a possible implication of the reading, or a connection between this reading and other readings in the course. Identifying and developing good research questions is possibly the most important and challenging part of doing philosophy. Some questions are more researchable than others. Your weekly task is to develop questions that will provide a basis for engaging seminar discussions and possibly a starting point for fruitful philosophical investigation.

### Three Written Preparations on Graduate Student Papers

Students are required to write and submit preparations for each of the class meetings that are devoted to graduate student papers. Specific guidelines for this assignment will be distributed.

### Two papers

Students are required to write and submit two papers. The papers will be based on class readings and discussions. Students will have the option of visiting an instructor with rough drafts of each paper. The final draft of each paper should be about 2,750 words in length (including footnotes but not references). Student will choose one of two assigned topics for the first paper, and likewise for the second.

### Two Research Talk Reports

Students are required to attend and report on two research talks at the university. At least one research talk will be a philosophy of science talk given in the Department of Philosophy. Six philosophy of science talks are scheduled by the Philosophy Department for the winter term (Jan 13, 3 – 5 pm; Jan 19, 3:30 – 5 pm; March 19, 7 – 9 pm; March 20, 3 – 5 pm; March 10, 3 – 5 pm; March 24, 3 – 5 pm). These talks will be announced in class and posted on the Philosophy Department website. You may choose to report on two of these talks if you wish. Alternatively, you may report on one of these talks and on another research talk either related to this seminar (possibly a talk sponsored by a physical, biological, biomedical, or social science department) or on a research talk related to your other philosophical studies (possibly another talk in the Philosophy Department's event series). If you choose the second option, you will need to find out about such talks and decide which one you want to attend and report on.

Research talk reports should be 200 – 300 words in length and organized into three labeled parts: a. report of the research presentation; b. report of the discussion during the question and answer period after the main presentation; and c. your reaction to the research presentation and discussion, how it relates to this seminar or your philosophical interests, and what you learned from it.

### Peer Meeting Reports

During the last two week of class, students will meet in groups of four to discuss one another's papers. You will choose which of the two papers you wrote for this course will be read and discussed by your peers. In this part of the course, you are required to write written preparations for three peer papers, one report on a group's discussion of a peer's paper, and a report on what you learned from your peers' comments, questions and discussions of your own paper. Specific guidelines for these assignments will be distributed.

## Due Dates and Grading

**Important:** there is **kick-off event Monday evening (January 9, 6 – 8:30 pm, in our regular meeting room (light vegetarian dinner will be served). Attendance is highly recommended, but not required.**

**Important:** there is a **required reading and written preparation assignment due at the beginning of the first class (January 10).** The reading assignment for the first class is:

Longino, Helen. 2013. "Defining Human Behavior", Chapter 9 of *Studying Human Behavior*, Chicago: University of Chicago Press, pages 151 – 178. (Available to University of Calgary community via library.ucalgary.ca: go to library web site; log in; search for Studying Human Behavior; go to online version; go to chapter 9.

Please see sections in this outline titled "Eight Written Preparations on Gateway and Topic Area" Readings and "**Style and Citation Requirements**" for instructions on writing the written assignment.

Assignment	Due date	Points
11 Written preparations	Beginning of each class	2 points each, lowest score dropped
Paper 1	Feb 17	30 points
Paper 2	March 31	30 points
2 Research talk reports	Feb 17 April 7 These are due dates for research talk reports, but students are encouraged to submit their reports earlier.	3 points each
3 Written preparations for discussions of peer papers	Beginning of each class	2 points each
Report on group discussion of a peer's paper	Friday after discussion (April 7 or April 14)	4 points
Report on what was learnt from questions and discussion of your paper	April 17	4 points

Completion Requirement: Each of the above assignments, including participation in 3 group discussions of peers' papers on April 4 and April 11, must be completed and submitted to pass the course.

Assignments turned in late: If an assignment is turned in late without an appropriate excuse it will receive a grade of zero, but it nevertheless can count towards fulfilling the Completion Requirement stated above. For example, if a written preparation is not turned in at the beginning of class, it must be turned in afterwards in order for the student to pass the course; if the lateness is unexcused, the prep will receive a grade of zero but it can still count as satisfying the Completion Requirement (if it written in a satisfactory manner).

No Registrar-scheduled final will be given.

### Final grades will be awarded as follows

96-100 = A+	75-79 = B	55-59 = C-
90-95 = A	70-74 = B-	50-54 = D+
85-89 = A-	65-69 = C+	45-49 = D
80-84 = B+	60-64 = C	below 45 = F

### **Readings**

Readings will be available on-line. There are no printed texts to purchase for this course.

### **Course Schedule**

The first four classes (January 10, 17, 24 & 31) will be devoted to reading and discussing Gateway Readings on scientific practice. The second four classes (February 7, 14, 28 & March 7) will be devoted to reading and discussing Topic Areas readings. The last two weeks of the term (April 4 & 11) will be organized for students to meet in groups of four to discuss one another's papers.

### **Style and Citation Requirements**

All written work for this course should be submitted as hard copies and adhere to the formatting requirements of the journal *Philosophy of Science* with three exceptions:

1. Please staple an afterpage with your name on it for everything you turn in. Your name should not appear anywhere else on the assignment (so we can follow the best practice of masked grading when possible).
2. Include page numbers at the bottom of each page of any multipage submission (except for the afterpage, which does not need to be numbered).
3. You do not need to include an abstract for any assignment other than the rough and final drafts of the papers.

The formatting requirements of *Philosophy of Science* can be found at:

<http://journal.philsci.org/formatting-guidelines>

## **IMPORTANT DEPARTMENTAL, FACULTY AND UNIVERSITY INFORMATION**

### **Academic Honesty**

Cheating or plagiarism on any assignment or examination is regarded as an extremely serious academic offence, the penalty for which may be an F on the assignment, an F in the course, academic probation, or requirement to withdraw from the University. See the relevant sections on 'Academic Misconduct' in the current University Calendar. Intellectual honesty requires that your work include adequate referencing to sources. Plagiarism occurs when you do not acknowledge or correctly reference your sources. If you have questions about correct referencing, consult your instructor.

### **Academic Accommodation**

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services. SAS will process the request and issue letters of accommodation to instructors. For more information on support services and accommodations for students with disabilities, visit <http://www.ucalgary.ca/access/>. Students who require accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their instructor. The full policy on student accommodations is available at [http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy\\_0.pdf](http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy_0.pdf)

### **D2L Help**

Desire2Learn is UCalgary's online learning management system. Important information and communications about this course may be posted on D2L. Go to <http://www.ucalgary.ca/it/services/d2l> for help.

### **General Academic Concerns and Program Planning**

Have a question but not sure where to start? The Arts Students Centre is your information resource for everything in the Faculty of Arts. Drop in at SS102, call 403-220-3580, or email [ascarts@ucalgary.ca](mailto:ascarts@ucalgary.ca). Advisors in the ASC can also provide assistance and advice in planning your program through to graduation. Visit the Faculty of Arts website at <https://arts.ucalgary.ca/undergraduate> for detailed information on common academic concerns

### **Advice on Philosophy Courses**

You may find answers to your more specific questions about a philosophy degree on the Department of Philosophy's website <http://phil.ucalgary.ca> , or contact one of Philosophy's Undergraduate Advisors. Jeremy Fantl ([jfantl@ucalgary.ca](mailto:jfantl@ucalgary.ca)), Reid Buchanan ([buchanar@ucalgary.ca](mailto:buchanar@ucalgary.ca)), Megan Delehanty ([mdelehan@ucalgary.ca](mailto:mdelehan@ucalgary.ca)).

### **Registration Overload/Prereq Waivers**

If you are seeking to register in a Philosophy course that is full or to get permission to waive the prereqs for a course, email the Department Manager, Merlette Schnell ([schnell@ucalgary.ca](mailto:schnell@ucalgary.ca)). Include the specific course information and your UCID number in your request.

### **Writing**

This course will include written assignments. Faculty policy directs that all written assignments (including, although to a lesser extent, written exam responses) will be assessed at least partly on writing skills. Writing skills include not only surface correctness (grammar, punctuation, sentence structure, etc.) but also general clarity and organization. Research papers must be properly documented. Students are also encouraged to use Writing Support Services and other Student Success Centre Services, located on the 3rd floor of the Taylor Family Digital Library. Writing Support Services assist with a variety of assignments, from essays to lab reports. Students can book 30-minute one-on-one appointments online, sign up for 15- minute drop-in appointments, and register for a variety of writing workshops. For more information on this and other Student Success Centre services, please visit [www.ucalgary.ca/ssc](http://www.ucalgary.ca/ssc) .

### **Protection of Privacy**

The University of Calgary is under the jurisdiction of the provincial Freedom of Information and Protection of Privacy (FOIP) Act. The Department of Philosophy ensures the student's right to privacy by requiring all graded assignments be returned to the student directly from the instructor or teaching assistant.

### **Internet and Electronic Communication Devices**

The instructor reserves the right to establish course policies regarding the use of devices such as laptops, tablets, and smartbooks. If allowed, these devices must be used exclusively for instructional purposes and must not cause disruption to the instructor or to fellow students. Cell phones and paging devices should be set to silent mode during lectures. Audio or video recording of lectures is not permitted without the written permission of the instructor. Students violating this policy are subject to discipline under the University of Calgary's Non-Academic Misconduct policy

### **Emergency Evacuation:**

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at <http://www.ucalgary.ca/emergencyplan/assemblypoints> . Please check this website and note the nearest assembly point for this course.

### **Other Helpful Contacts**

- Safewalk and Campus Security: 403-220-5333.
- Faculty of Arts Student Representatives: 403-220-6552, [arts1@su.ucalgary.ca](mailto:arts1@su.ucalgary.ca) , [arts2@su.ucalgary.ca](mailto:arts2@su.ucalgary.ca), [arts3@su.ucalgary.ca](mailto:arts3@su.ucalgary.ca), [arts4@su.ucalgary.ca](mailto:arts4@su.ucalgary.ca) .
- Student Ombudsman: <http://www.ucalgary.ca/provost/students/ombuds>