



FACULTY OF ARTS  
DEPARTMENT OF PHILOSOPHY

**PHIL 667.14 Lec 01**  
**Topics in Philosophy of Science (Scientific Practice)**  
**Winter Term 2017**

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

**Course Outline**

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**Course**

The topic of this graduate research seminar 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.

**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, arguments, and writing;
- Ability to use discussions and feedback about one's work to improve one's own positions, arguments, and writing;
- Ability to engage in constructive, respectful, oral and written argumentation.

## **Course Work**

### 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.

### Written Preparations on Drafts of Students' Papers

Special instructions will be given for this assignment.

### Topic Area Identification Report

Students are required to submit a report of the topic area they plan to research and to write a paper on for this seminar. You should both describe the topic and explain why it would be a promising topic area to work on. This part of your report should be approximately 500 words in length. On a separate page of your report, provide a bibliography of at least three sources. For each source, add a sentence or two explaining why it is a good source for the topic.

In the middle section of the course, we will discuss readings suggested by students with an eye towards helping students conduct research in their chosen topic areas. After your bibliography section in the Topic Area Identification Report, you should identify two possible reading selections that you would like your classmates to read and discuss. Each of your selections should be equivalent to 10 pages in length (they need not be 10 contiguous pages). The selections should be described very carefully so there is no ambiguity about which lines of which pages you intend to assign. The instructors will choose which of these selections will be assigned to the class.

### Research Proposal

Students are required to submit a research proposal of approximately 2,000 words (not including references) that presents their research plan. Your proposal should identify your research question or problem, explain why it is important, and explain how you intend to address it. You should organize your proposal in two parts. The first part should explain and motivate the focus of your research by answering these questions: (i) What is the general topic area? (ii) What are the main views on the topic? (iii) What question or problem in this topic area will be the focus of your attention? The second part of the proposal should contain a section-by-section outline of how you plan to construct your research paper. Dedicate a paragraph describing each section of the proposed paper. This outline will serve as your research plan. It is just a tentative plan. At least 1,200 words should be devoted to the first part of the proposal. Your proposal must include references.

### Research Paper

The word maximum is 5,000 words (including footnotes, excluding references and any diagram notation). It should be written in a style appropriate for submission to the CPA Conference or PSA Biennial Meeting. You are required to submit a rough draft as well as a final draft.

### Introduction and Discussion Leader for a Gateway Reading

The aim of presentations is to stimulate subsequent discussion, not to provide a summary of the contents of the reading. You should draw attention to what you think are the most provocative ideas, lines of reasoning, and arguments in the selection. Your presentation should motivate questions that we can discuss. You should conclude your presentation with those questions.

### Introduction and Discussion Leader for a Topic Area Reading

The aim of presentations is to explain the significance of the reading for your project and stimulate subsequent discussion, not to provide a summary of the contents of the reading. You should draw attention to what you think are the most provocative ideas, lines of reasoning, and arguments in the selection relevant to your research problem.

### Two Research Talk Reports

Students are required to attend and report on two research talks at the university. 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. The other research talk should be a science talk related to in your chosen topic area (possibly a talk sponsored by a physical, biological, biomedical, or social science department). 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 topic area, and what you they learned from it.

### **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.

<b>Assignment</b>	<b>Due date</b>	<b>Points</b>
11 written preparations	Beginning of each class	Required, but no point value
Topic Identification Report	Group A: Jan 31 Group B: Feb 7 Group C: Feb 14	10 points
Research Proposal	Group A: Feb 21 Group B: Feb 28 Group C: March 7	30 points
Rough Draft Research Paper	Group A: March 14 Group B: March 21 Group C: March 28	Required, but no point value

Final Research Paper	April 18	60 points
Intro to Gate Reading	To be assigned	Required, but no point value
Intro to Topic Area Reading	To be assigned	Required, but no point value
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.	Required, but no point value

No late assignments will be accepted without an appropriate excuse.

No Registrar-scheduled final will be given.

All of the above assignments are required for passing the course.

#### 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 discussing student-selected Topic Areas readings. The next three classes (March 14, 21, 28) will be devoted to discussing drafts of student research 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 put your name on the upper right corner of the first page of everything you turn in.
2. Include page numbers at the bottom of each page of any multipage submission.
3. You do not need to include an abstract for any assignment other than the rough and final drafts of the term paper.

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 offense, 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.

### **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.