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**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 Biennual 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 (September 8, 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 (September 9).*** 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.

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| **Assignment** **Due date Points**  11 written preparations Beginning of each class Required, but no point value  Topic Identification Report Group A: Jan 31 10 points  Group B: Feb 7  Group C: Feb 14  Research Proposal Group A: Feb 21 30 points  Group B: Feb 28  Group C: March 7  Rough Draft Research Paper Group A: March 14 Required, but no point value  Group B: March 21  Group C: March 28  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 Required, but no point value  April 7  These are due dates for research talk  reports, but students are encouraged  to submit their reports earlier. |

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>