

The University of Calgary – Department of Philosophy

**Philosophy 367 Lecture 01
Science and Philosophy
Fall 2009**

Course Outline

**Lectures: MWF 13:00
Location: SS541**

**Instructor: Dr. Megan Delehanty
Office: SS 1240
Phone: 403-220-2828**

**Email: mdelehan@ucalgary.ca
Office Hours: M 16:00-17:00
or by appointment**

Course Description

This course is a general introduction to the philosophy of science. We will investigate the nature and status of scientific knowledge, focusing on three core issues:

- I) *Demarcation*. What makes something science? What makes something pseudoscience? For instance, why do most people think that astronomy is based on scientific theory while astrology is not?
- II) *Rationality, Objectivity, and Values*. Does science reflect universal rationality or particular sociocultural concerns? How does scientific progress occur?
- III) *Realism*. Do scientific entities such as genes and quarks really exist? Is the goal of science truth or simply empirical adequacy/instrumental utility?

Course Texts

- 1) Curd, M., and Cover, J.A. (1998). *Philosophy of Science: The Central Issues*. New York: W.W. Norton & Company. (**Required**)
- 2) Godfrey-Smith, P. (2003). *Theory and Reality*. Chicago: University of Chicago Press. (**Highly recommended**)

Course Requirements

30% Three in-class quizzes (10% each)	Quiz #1 Oct. 9
	Quiz #2 Nov. 9
	Quiz #3 Dec. 7
30% Paper #1	Due Oct. 26
40% Paper #2	Due Nov. 30

Note that there will be NO final exam.

Grading Scale

95-100 = A+	78-80 = B+	68-70 = C+	58-60 = D+
85-94 = A	75-77 = B	65-67 = C	50-57 = D
81-84 = A-	71-74 = B-	61-64 = C-	< 50 = F

Policy on Late Assignments

No late assignments or make-up exams are permitted unless a medical note is provided and/or permission is granted by the instructor *prior* to the set date.

It is the student's responsibility to keep up with the lectures, assignments, and due dates for assignments. Note that the schedule of readings is not precise. We will work through the readings in the order listed, but the pace of progress through different readings will vary. Thus, it is important to find out from another student where we are if you must miss a class.

Readings All readings are from Curd and Cover unless otherwise specified. You will likely find it extremely helpful to read the corresponding sections of Godfrey-Smith, although no readings from his text are required.

I. Demarcation

- 1) "Science: Conjectures and Refutations" - Popper
- 2) "Science and Pseudoscience" – Lakatos
- 3) "Why Astrology Is a Pseudoscience" – Thagard
- 4) "Creation-Science Is Not Science" – Ruse
- 5) "Commentary" –Laudan
- 6) "Response to the Commentary" –Ruse

II. Rationality, Objectivity, and Values

- 1) "The Nature and Necessity of Scientific Revolutions" –Kuhn
- 2) "Objectivity, Value Judgement, and Theory" – Kuhn
- 3) "Dissecting the Holist Picture of Scientific Change" –Laudan
- 4) "The New Riddle of Induction" – Goodman (**available on Blackboard**)
- 5) "Values and Objectivity" –Longino
- 6) "Gender and the Biological Sciences" –Okruhlik

III. Realism

- 1) "The Ontological Status of Theoretical Entities" –Maxwell
- 2) "Arguments Concerning Scientific Realism" –van Fraassen
- 3) "Realism versus Constructive Empiricism" –Musgrave
- 4) "Experimentation and Scientific Realism" –Hacking
- 5) "The Natural Ontological Attitude" –Fine

INTELLECTUAL HONESTY

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. As a result, 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 and possibly also an F in the course, academic probation, or requirement to withdraw. The University Calendar states that plagiarism exists when:

- *the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test;*
- *parts of the work are taken from another source without reference to the original author;*
- *the whole work (e.g., an essay) is copied from another source; and/or*
- *a student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved.*

While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious offence. Plagiarism occurs not only when direct quotations are taken from a source without specific acknowledgement, but also when original ideas or data from the source are not acknowledged. A bibliography is insufficient to establish which portions of the student's work are taken from external sources; footnotes or other recognized forms of citation must be used for this purpose.

ACADEMIC ACCOMMODATION

It is the student's responsibility to request academic accommodation. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

STUDENTS' UNION REPRESENTATIVE

The Humanities Representative is Britney Luimes, MSC 251, humanitiesrep@su.ucalgary.ca or 220-3913.