
PHIL 2301

Introduction to the Philosophy of Science



Fall 2012 - Course Outline

https://docs.google.com/document/pub?id=11KkuqufWHHE_MLqXapDM8c3pGIzvvnWxZd7OGTpgqts

I. Instructor

Gabriele Contessa
Paterson 3A43
Office Hours: TBA
E-mail: gabriele_contessa@carleton.ca

II. Description

This course is an introduction to the philosophy of science. We'll look into some central philosophical questions about science, its aims, and its methods, such as 'How are theories evaluated?', 'Does science aim at truth?', 'What role do values play in science?'.

III. Prerequisites

Registration in a Honors or Combined Honors Philosophy program or second-year standing.

IV. Readings

The readings marked [C&C] can be found in M. Curd and J.A. Cover (eds.) *Philosophy of Science: The Central Issues*, Norton, 1998.

The readings marked [K] are from T. Kuhn, *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought*, Harvard, 1957.

The readings marked [www] can be downloaded through the electronic library.

Please remember to bring the readings with you to all classes because we'll use them sometimes!

V. Assignments and Grading (Please see schedule below for dates and deadlines)

- a. Two in-class Quizzes (each worth 7.5% of your final grade).
- b. Six Reports (worth 70% of your final grade);
- c. Class attendance and participation worth 15% of the final grade.

VI. Policies

Attendance. Lecture attendance is required. This means that you are responsible for all material covered in the lectures (including any handouts) and for all announcements made in class (including changes in deadlines, reading schedule, etc.).

Readings. You are responsible for finding out what the readings for the next class are and for reading them carefully and attentively before class. If you are unsure about what the reading for the next class is, please consult the most updated version of the course outline, which can be found at .

Communications. You are responsible for checking this course outline regularly for any changes and your Carleton e-mail account frequently for important announcements and other messages related to the course.

Reports. Each report should outline as clearly, succinctly, and informatively as possible one of the key ideas or arguments of one of the readings. Reports have to be between 150 and 200 words. All reports are to be sent as an email (not as an attachment!) to gabriele.contessa@carleton.ca by midnight the day before the reading is due to be discussed in class (as per course schedule below). The subject of the email should read 'PHIL 2301 - Report [number of the report]' (e.g. 'PHIL 2301 - Report 5'). Reports on readings already discussed in class will not be accepted. Reports above or below the word limits will be penalized ¼ point per word.

You are responsible for ensuring that you have a copy of the e-mail you sent in your 'Sent Items' folder as proof of your submission. If you don't have a sent item folder, you should cc the e-mail to your own e-mail address. If I do not receive your assignment and you are not able to provide me with proof of on-time submission, you will be penalized as if you had submitted the assignment late.

Failing to submit a report or missing a quiz will result in a 0% on that report/quiz.

While I am happy to answer any general questions about your assignments, please be advised that I cannot provide any specific feedback on draft assignments.

Academic Integrity. *All written work must be your own.* If you use someone else's words or ideas, the source must be cited appropriately. It is the responsibility of each student to understand the meaning of 'plagiarism' as defined in the Undergraduate or Graduate Calendars, and to avoid both committing plagiarism and aiding or abetting plagiarism by other students (Undergraduate Calendar Academic Regulations, section 14.3, page 56 or <http://www.carleton.ca/cu0809uc/regulations/acadregsuniv14.html#14.3>). Plagiarism is a very serious academic offence and I am bound to report any suspected case of plagiarism directly to the Office of the Dean.

All final grades are subject to the approval of the Dean.

VII. Schedule (Please check this course outline regularly for any changes)

Sep 6 Introduction

Theory and Evidence

Sep 12 [C&C]: Lipton 'Induction'
[K]: Ch. 1 (§§ 1–3)

Sep 14 [C&C]: Popper 'The Problem of Induction'
[K]: Ch. 1 (§§4–6)

Sep 19 [C&C]: Salmon 'Rational Prediction'
[K]: Ch. 1 (§§7–9)

Sep 21 Salmon 'Rationality and Objectivity in Science or Tom Kuhn meets Tom Bayes'
[K]: Ch. 2 (§§1–3)

Sep 26 [C&C]: Snyder 'Is Evidence Historical?'
[K]: Ch. 2 (§§4–6)

Sep 28 [C&C]: Duhem 'Physical Theory and Experiment'
[C&C]: Quine 'Two Dogmas of Empiricism' (Only §6 'Empiricism Without Dogmas')
[K]: Ch. 3 (§§1–3)

Oct 3 [C&C]: Laudan 'Demystifying Underdetermination'
[K]: Ch. 3 (§§4–5)

Oct 5 No Class! (University Day)

Oct 10 [C&C]: Kuhn 'The Nature and Necessity of Scientific Revolutions'
[C&C]: Kuhn 'Objectivity, Value Judgement and Theory Choice'
[K]: Ch. 4 (§§1–2)

Oct 12 [C&C]: Longino 'Values and Objectivity'
[K]: Ch. 4 (§§3–4)

Demarcation

Oct 17 [C&C]: Popper 'Science: Conjectures and Refutations'
[C&C]: Kuhn 'Logic of Discovery or Psychology of Research?'
[K]: Ch. 5 (§§1–2)

Oct 19 [C&C]: Lakatos 'Science and Pseudoscience'
[C&C]: Thagard 'Why Astrology is a Pseudoscience'
[K]: Ch. 5 (§§3–4)

Oct 24 [C&C]: Ruse 'Creation Science is not Science'
[C&C]: Laudan 'Science at the Bar--Causes for Concern'
[C&C]: Ruse 'Response to Commentary: *Pro Judice*'
[K]: Ch. 5 (§§5–6)

Explanation

- Oct 26 [C&C]: Hempel ‘Two Basic Types of Scientific Explanation’
[C&C]: Hempel ‘The Thesis of Structural Identity’
[K] Ch. 5 (§§7–8)
- Oct 31 [www]: van Fraassen ‘The Pragmatics of Scientific Explanation’ [\[link\]](#)
[K]: Ch. 6 (§1)
- Nov 2 [www]: Friedman ‘Explanation and Scientific Understanding’ [\[link\]](#)
[K]: Ch. 6 (§2)
- Nov 7 [www]: Woodward ‘Explanation, Invariance, and Intervention’ [\[link\]](#)
[K]: Ch. 6 (§3)

Reduction

- Nov 9 [C&C]: Nickels ‘Two Concepts of Intertheoretic Reduction’
[K]: Ch. 6 (§§4–5)
- Nov 14 [www]: Fodor ‘Special Sciences (or the Disunity of Science as a Working Hypothesis)’ [\[link\]](#)
[K]: Ch. 7 (§§1–2)

Realism

- Nov 16 [www]: Boyd ‘On the Current Status of the Issue of Scientific Realism’ [\[link\]](#)
[K]: Ch. 7 (§§3–4)
- Nov 21 [C&C]: Laudan ‘A Confutation of Convergent Realism’
[K]: Ch. 7 (§5)
- Nov 23 [C&C]: van Fraassen ‘Arguments Concerning Scientific Realism’
[K]: Ch. 7 (§6)
- Nov 28 [C&C]: Hacking ‘Experimentation and Scientific Realism’
[www] Worrall ‘Structural Realism: The Best of Both Worlds?’ [\[link\]](#)
- Nov 30 [C&C]: Fine ‘The Natural Ontological Attitude’
[www] Chakravartty ‘Semirealism’ [\[link\]](#)

Department of Philosophy and Carleton University Policies (2012-13)

Assignments:

Unless specifically told otherwise by their instructors, students:

- must not use a plastic or cardboard cover or paper clips
- must staple the paper (there is a stapler on the essay box)
- must include the following in the lower right corner of the cover sheet:
 - student name
 - student number
 - course number and section
 - instructor's name
- The Philosophy Department does not accept assignments by FAX. You may send them by courier, if necessary.
- No assignments will be accepted after the last day for handing in term work – see dates in next column.
- Assignments handed in through the essay box (just inside the glass doors, Paterson Hall, Floor 3A) must be dropped into the box by **4:15** on a regular business day in order to be date-stamped with that day's date. Assignments handed in after 4:15 or on a non-business day will be stamped as having been handed in on the next business day.
- Students are required to keep copies of their assignments. If your paper is lost at any point, you will be considered not to have submitted it if you cannot produce a copy immediately on request.

Deferrals for Term Work:

If you miss a final examination and/or fail to submit a final assignment by the due date because of circumstances beyond your control, you may apply for a deferral of examination/assignment. For deferred examinations, you must apply within 5 working days after the scheduled date of your exam. To apply for deferral of a final assignment, you must apply within 5 working days of the last scheduled day of classes. Visit the Registrar's Office for more information.

Plagiarism:

It is the responsibility of each student to understand the meaning of 'plagiarism' as defined in the Undergraduate or Graduate Calendars, and to avoid both committing plagiarism and aiding or abetting plagiarism by other students. (Undergraduate Calendar Academic Regulations, section 14.3, or <http://www4.carleton.ca/calendars//ugrad/current/regulations/acadregsuniv14.html#14.3>)

Academic Accommodation for Students with Disabilities:

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://carleton.ca/equity/accommodation>.

Important Dates:

Sept. 6	Classes start (after Orientation events).
Sept. 19	Last day for registration and course changes in Fall and Fall/Winter courses.
Sept. 30	Last day for entire fee adjustment when withdrawing from Fall term or two-term courses.
Oct. 5	University Day – no classes.
Oct. 8	Thanksgiving Day – university closed.
Nov. 19	Last day for tests or examinations in courses below 4000-level before the Final Examination period.
Dec. 3	Last day of classes, Fall term. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for Fall term courses.
Dec. 3	Last day to withdraw from Fall term courses (academic purposes only).
Dec. 4-5	No classes take place. Review classes may be held, but no new material may be introduced.
Dec. 6-19	Final examinations for Fall courses, mid-terms for Fall/Winter courses.
Dec. 19	Take-home exams are due.
Jan. 7	Winter term classes begin.
Jan. 18	Last day for registration and course changes in Winter term classes.
Jan. 31	Last day for entire fee adjustment when withdrawing from winter courses or winter portion of two-term courses.
Feb. 18	Family Day – university closed
Feb. 18-22	Winter Break, classes suspended.
Mar. 27	Last day for tests or examinations in courses below 4000-level before the Final Examination period.
Mar. 29	Good Friday – university closed
Apr. 10	Last day of Fall/Winter and Winter term classes. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for term work for Fall/Winter and Winter term courses. NOTE: On this day all classes follow a Friday schedule.
Apr. 10	Last day to withdraw from Fall/Winter and Winter term courses (academic purposes only).
Apr. 11-12	No classes take place. Review classes may be held, but no new material may be introduced.
Apr. 13-27	Final Examinations.
Apr. 27	Take-home exams are due.

Addresses:

Department of Philosophy:	3A46 Paterson Hall www.carleton.ca/philosophy 520-2110
Registrar's Office:	300 Tory www.carleton.ca/registrar 520-3500
Student Academic Success Centre:	302 Tory www.carleton.ca/sasc 520-7850
Paul Menton Centre:	500 University Centre www.carleton.ca/pmc 520-6608
Writing Tutorial Service:	4 th Floor, Library www.carleton.ca/wts 520-6632
MacOdrum Library	http://www.library.carleton.ca/ 520-2735