



PHIL*3170 Topics in the Philosophy of Science

Winter 2019

Section(s): C01

Department of Philosophy

Credit Weight: 0.50

Version 1.00 - January 03, 2019

1 Course Details

1.1 Calendar Description

This course studies specialized questions about science within a broad intellectual and social context. Contested issues regarding the nature of science, its aims and methods, and science's relation to society will be critically examined. Past offerings of the course have examined such topics as realism and antirealism, naturalized explanations, the unity/disunity of science, and feminist approaches to science.

Pre-Requisite(s): 1 of (1.50 credits in Philosophy, 7.50 credits, PHIL*2180)

1.2 Course Description

In this course we look at science from a variety of philosophical perspectives. First, we examine scientific reasoning from an empiricist standpoint (Nelson Goodman, 1955). Second, we look at scientific revolutions and how new scientific paradigms are developed and adopted (Thomas Kuhn, 1969). Third, we explore the impact of the Internet and "google-knowing" on knowledge in contemporary science and beyond (Michael Lynch, 2017).

1.3 Timetable

Mondays and Wednesdays, 11:30 - 12:50, ALEX 259

1.4 Final Exam

No final exam.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Andrew Wayne
Email: awayne@uoguelph.ca
Telephone: +1-519-824-4120 x56787
Office: MCKN 331
Office Hours: Mondays, 1:30 - 2:20 and by appointment.

3 Learning Resources

3.1 Required Resource(s)

Textbooks and Course Materials (Textbook)

- Nelson Goodman, *Fact, Fiction and Forecast*
 - Thomas Kuhn, *The Structure of Scientific Revolutions*
 - Michael Lynch, *The Internet of Us*
 - Online materials at <http://courselink.uoguelph.ca>. You are responsible for accessing CourseLink regularly. Some course materials and grading comments may only be available on CourseLink.
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4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Understand, explain and assess main aspects of the scientific method, the development of scientific paradigms, and scientific reasoning in a contemporary context.
 2. Understand, explain and assess key philosophical concepts including empiricism, confirmation theory, induction, scientific progress, scientific revolution, realism, explanation and understanding.
 3. Prepare a sustained piece of philosophical writing in which a topic is articulated clearly and a stance on that topic is supported by appropriate and well thought-through reasons.
 4. Argue successfully for your own view and be able to identify and critically evaluate patterns of argumentative reasoning in the work of others.
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5 Teaching and Learning Activities

5.1 Lecture

January 7 & 9 SECTION I: SCIENTIFIC REASONING

Topic(s): Introduction

January 14 & 16

Topic(s): Laws and confirmation
Goodman, Ch. 1

January 21 & 23

Topic(s): Counterfactuals and induction
Goodman, Ch. 2

January 28 & 30

Topic(s): Grue and bleen
Goodman, Ch. 3

February 4 & 6

Topic(s): Entrenchment
Goodman, Ch. 4
****Midterm #1 February 6****

February 11 & 13 SECTION II: SCIENTIFIC PROGRESS

Topic(s): Normal science
Kuhn, Chs. 1-4

Reading week

Topic(s): February 18-22

February 25 & 27

Topic(s): Paradigms and crisis
Kuhn, Chs. 5-7

March 4 & 6

Topic(s): Crisis and revolution
Kuhn, Chs. 8-10

March 11 & 13

Topic(s): Progress through revolutions
Kuhn, Chs. 11-13
****Midterm #2 March 13****

March 18 & 20 SECTION III: SCIENCE, KNOWLEDGE AND GOOGLE

Topic(s): Knowledge, rationality and objectivity
Lynch, Chs. 2, 3, 4

March 25 & 27

Topic(s): Privacy, autonomy and the distribution of knowledge
Lynch, Chs. 5 and 7
****Paper outline due March 27****

April 1 & 3

Topic(s): Understanding
Lynch, Chs. 8 and 9
****Paper due April 12****

6 Assessments

6.1 Course Requirements

- 10% Best 10 weekly reading responses
- 25% Midterm test #1
- 25% Midterm test #2
- 15% Term paper outline
- 25% Term paper

6.2 Additional support

Students with special needs or requiring additional support are encouraged to speak with me as early in the term as possible to ensure that appropriate arrangements are made.

7 University Statements

7.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

7.3 Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for course registration are available in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

More information can be found on the SAS website
<https://www.uoguelph.ca/sas>

7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

7.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

7.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars
<https://www.uoguelph.ca/academics/calendars>