



PHIL*2180 Philosophy of Science

Fall 2020

Section(s): C01

Department of Philosophy

Credit Weight: 0.50

Version 1.00 - September 16, 2020

1 Course Details

1.1 Calendar Description

As a system of knowledge pursuit, science develops laws and theories to explain, predict, understand, and control empirical phenomena. This course introduces students to many of the challenging assumptions, foundations, and implications of science. Topics include the nature of scientific knowledge, the structure of scientific theories, the distinction between science and pseudo-science, whether there is a scientific method, and how social and political processes influence the way science develops.

Pre-Requisites: 2.00 credits or (1 of PHIL*1000, PHIL*1010, PHIL*1050)

1.2 Course Description

In this course we look at science from a variety of philosophical perspectives. We examine contrasting views of scientific method (Hempel, Popper). We look at scientific revolutions and how new scientific paradigms are developed and adopted (Kuhn). We explore contemporary feminist approaches to science (Code, Longino). Finally, we step back and survey the role of science in modern society (Barnes, Nichols). The influence of scientific experts reaches into almost every aspect of contemporary life. What are the advantages of this kind of society? What are its dangers? This course will be offered online.

1.3 Timetable

Activity Day	Activity Description
Monday (weeks with an assigned reading)	5:00 pm - Reading Response due in CourseLink
Monday (weeks with an assigned reading)	5:00 pm - Video lecture released

reading)

Wednesday (except Oct. 14)

11:30 am to 12:50 pm - Zoom class meeting

Wednesday

1:00 pm - Questions for next week's Reading Response released

1.4 Final Exam

There will be a take-home final exam.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Andrew Wayne
Email:	awayne@uoguelph.ca
Office Hours:	Wednesdays, 2:00 - 3:00 pm, over Zoom, and by appointment.

2.2 Teaching Assistants

Teaching Assistant:	Brady Fullerton
Email:	bfullert@uoguelph.ca
Office Hours:	Tuesdays, 2:00 pm to 3:00 pm, over Zoom, and by appointment.

3 Learning Resources

3.1 Required Resources

The Structure of Scientific Revolutions (Textbook)

Thomas Kuhn, *The Structure of Scientific Revolutions*. University of Chicago Press (2nd or later edition).

Readings available on CourseLink (Article)

<http://courselink.uoguelph.ca>

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 the role of science in a contemporary context.
2. Understand, explain and assess key philosophical concepts including confirmation theory, induction, falsificationism, scientific progress, scientific revolution, scientific authority and expertise.
3. Argue successfully for your own view and be able to identify and critically evaluate patterns of argumentative reasoning in the work of others.

5 Teaching and Learning Activities

5.1 Tentative Schedule

Week	Topic	Reading
1. Scientific Method		
Sept. 14	Introduction	<i>None</i>
Sept. 21	Confirmation theory	Hempel
Sept. 28	Falsificationism	Popper
2. Scientific Revolutions		
Oct. 5	Normal science	Kuhn, Chs. 1-IV
Oct. 12	<i>No class; take-home midterm due Oct. 14 at 11:30 pm</i>	
Oct. 19	Paradigms and crisis	Kuhn, Chs. V-VII
Oct. 26	Crisis and revolution	Kuhn, Chs. VIII-X
Nov. 2	Progress through revolutions	Kuhn, Chs. XI-XIII
3. Science and gender		
Nov. 9	Feminist epistemology	Code
Nov. 16	Feminist science	Longino
4. Scientific authority and		

Week expertise	Topic	Reading
Nov. 23	Scientific authority	Barnes, Ch. 3
Nov. 30	Scientific expertise	Nichols, Goldenberg
	<i>Dec. 8 at 11:30 pm - Take-home final exam due</i>	

6 Assessments

6.1 Course Requirements

20% Reading Responses (10 assignments, 2% per assignment, pass/fail)

30% Take-home midterm test

50% Take-home final exam

7 Course Statements

7.1 Online Behaviour

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students
- Using obscene or offensive language online
- Copying or presenting someone else's work as your own

- Adapting information from the Internet without using proper citations or references
- Buying or selling term papers or assignments
- Posting or selling course materials to course notes websites
- Having someone else complete your quiz or completing a quiz for/with another student
- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online
- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your user name and password
- Recording lectures without the permission of the instructor

7.2 Livestreamed and recorded lectures

By enrolling in a course, unless explicitly stated and brought forward to their instructor, it is

assumed that students agree to the possibility of being recorded during lecture, seminar or other “live” course activities, whether delivery is in-class or online/remote.

If a student prefers not to be distinguishable during a recording, they may:

1. turn off their camera
2. mute their microphone
3. edit their name (e.g., initials only) upon entry to each session
4. use the chat function to pose questions.

Students who express to their instructor that they, or a reference to their name or person, do not wish to be recorded may discuss possible alternatives or accommodations with their instructor.

8 University Statements

8.1 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.

8.2 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>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

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

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester.

This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic 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>

Associate Diploma Calendar - Dropping Courses

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

8.4 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.

8.5 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.

For Guelph students, information can be found on the SAS website

<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 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>

8.7 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.

8.8 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>

8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

8.10 Illness

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.
