



PHIL*3170 Topics in the Philosophy of Science

Winter 2021

Section(s): C01

Department of Philosophy

Credit Weight: 0.50

Version 1.00 - January 07, 2021

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-Requisites: 1 of (1.50 credits in Philosophy, 7.50 credits, PHIL*2180)

1.2 Course Description

This course is designed with upper level undergraduate students in mind. The course gives students the opportunity to examine the key debates, historical and contemporary, in the Philosophy of Science. Some of the issues we shall examine include: The Laws of Nature, Induction, Causation, determinism and Emergence. Then we branch into some of the subdisciplines of Philosophy of Science and examine, among others, issues in the Philosophy of Neuroscience and the issues at the frontiers of the Philosophy of Biology, such as the problems of cooperation and biological individuality. In the philosophy of the social sciences, we shall look at the philosophical naturalism/anti-naturalism debate. Etc.

1.3 Timetable

Class Meet Times: Mondays and Wednesdays, 1:00pm - 2:20pm.

We will be meeting primarily on Zoom, through CourseLink. We may use Virtual Classroom sometimes, depending on the task.

1.4 Final Exam

Date: April 22, from 7-9pm.

The exam will be written online on courselink. It will consist of 16 short answer questions. It will not require Respondus Lockdown

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Yussif Yakubu
Email:	yyakubu@uoguelph.ca
Office Hours:	N/A

2.2 Teaching Assistants

Teaching Assistant:	Bryan Richard
Email:	bricha09@uoguelph.ca

3 Learning Resources

3.1 Required Resources

Paul Humphreys (ed. 2016), *The Oxford Handbook of Philosophy of Science* (Oxford Handbooks). Oxford University Press. Kindle Edition. eISBN 9780190631628. ISBN 978099368815 (Hardcover). (Textbook)

3.2 .

I will be posting journal articles, book chapters and excerpts from a variety of major thinkers in Philosophy of Science, including David Hume, Karl Popper, Thomas Kuhn, , and Stephen Jay Gould.

4 Learning Outcomes

I have developed the course to give students the opportunity to engage some of the contemporary debates regarding the nature of science.

4.1 Course Learning Outcomes

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

1. Explain the Epistemic, Metaphysical, Conceptual and Practical dimensions of General Philosophy of Science.

2. Explain the problem of induction and how it affects the certainty of scientific claims.
 3. Evaluate the arguments in the scientific realism versus antirealism debate.
 4. Explain the concept of emergence in relation to unity and downward causation.
 5. Explain some specified issues involving the laws of nature, determinism and metaphysical necessity.
 6. Explain the challenge of social evolution in Darwinian evolutionary theory.
 7. Describe the movement known as "Creation Science" and explain how its claims conflict with scientific claims.
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5 Teaching and Learning Activities

5.1 Lecture

Topics:

Please, see detailed weekly activities on the course outline that is posted on courselink.

6 Assessments

6.1 Marking Schemes & Distributions

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|-----------------------------|-----|-----------------------------|
| 1. Weekly Reading Summaries | 10% | |
| 2. Participation | 10% | |
| 3. Quiz | 15% | Friday February 12 |
| 4. Research Paper | 25% | Due Sunday, March 21 |

5. Final Exam 40%

Description of Assessment # 1 and its Evaluation Criteria:

Each week, each student is required to submit a 250-word summary of the week's required reading. Students will be evaluated based on the effectiveness of their summaries and their demonstrated grasp of the content of the reading. Each student is required to submit 10 of those summaries for 10% of the total marks in the course.

Description of Assessment # 2 and its Evaluation Criteria:

This is aimed at encouraging students to participate and contribute to class discussions. Individual students may be asked to comment or lead discussion on some specific topics.

Description of Assessment # 2 and its Evaluation Criteria:

The quiz is aimed at assessing students' grasp of the various principles, theories viewpoints and analyses covered up until the quiz.

Description of Assessment #4 and Its Evaluation Criteria:

The paper can be an expansion of the student's favourite weekly summaries topic, or a topic chosen from a list I shall put up. It should be about 1400 words in length. The criteria for evaluation will be clarity of thought and expression, persuasiveness of arguments, the demonstration of clear understanding of the issues and application of the relevant theoretical viewpoints in the analysis.

Description of Assessment #5 and Its Evaluation Criteria:

The final exam shall evaluate the entire set of competencies developed during the course. i.e. clear understanding of the key issues, debates and theoretical viewpoints in the Philosophy of Science. It shall consist of 16 short answer questions.

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>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

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

7.3 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>

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.

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>

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>

7.9 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.

7.10 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.
