

MDSC 307
Science, Philosophy and Society

Instructors:

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Office Hours/Policy on Answering Student Emails

Students are encouraged to meet with the instructor outside of class time. Get in touch by email or in person to arrange a meeting. All efforts will be made to respond to emails within 48 hours.

Time and Location:

WF 1300-1415hrs

January classes will take place synchronously over Zoom. Links will be available on D2L.

Assuming a return to in-person classes, beginning February 2nd, classes will take place in G384.

Prerequisite/Co-Requisite:

Second year or higher standing in the BHSc Honours program.

Course Description:

A survey of underlying ideas concerning the objectives, methods, ambitions, and responsibilities of the natural and social sciences

Overarching Theme

The overarching theme for this course is science's role in society. Students will develop an understanding of this role by engaging with such philosophical ideas as...

- Demarcation: What distinguishes genuine science from pseudoscience?
- Inference: How does observational evidence give us reason to accept scientific theories?
- Theory Change: When a theory is succeeded by a new one, how should we understand the relationship between new and old? What is scientific progress?
- Critiques of science: Science is generally seen as a source of emancipation that has freed us from a superstitious world view. Is this still true of science? Or can science be oppressive?

The course will begin with lectures on the above concepts. Students will then apply these ideas as they explore such issues as the impact of technological change and public trust in science.

Global Objectives

The main goal of this course is to develop a toolkit of resources for thinking about science and to use that toolkit to make sense of science's role in society.

Course Learning Outcomes

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

- Grasp fundamental conceptual issues about science such as demarcation, confirmation, realism, and progress
- Analyze original works by philosophers of science and other scholars
- Lead a discussion on a scholarly paper
- Apply conceptual tools to elucidate problems at the intersection of science and society

Learning Resources

Links or citations for all required readings will be available through D2L.

Recommended Resources

CBC Radio *Ideas* “How to Think About Science” series <http://www.cbc.ca/radio/ideas/how-to-think-about-science-part-1-24-1.2953274>

The Stanford Encyclopedia of Philosophy—<http://www.plato.stanford.edu>

A Note regarding readings

A list of required readings will be outlined on D2L and links and documents will be made available, where possible. Required readings have been chosen carefully to inform you and enhance the lecture material. **Students are REQUIRED to complete assigned readings BEFORE each lecture.** Instructors will proceed in class on the assumption that students have read completely the assigned readings. Students should be aware that many of the readings they will be assigned may be of an unfamiliar nature and style. Students should allot sufficient time to allow for several reads of the assigned material.

Learning Technology Requirements

Brightspace (by D2L) is located on the University of Calgary server and will be used extensively for communication with students. **It is the student’s responsibility to ensure that they receive all posted communications and documents and that they receive emails sent by instructors or fellow students through D2L.**

Only your @ucalgary.ca email address may be linked to D2L. Please ensure that you are regularly checking your @ucalgary.ca account.

To successfully engage in their learning experiences at the University of Calgary, students taking online, remote, and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Broadband internet connection.

Most current laptops will have a built-in webcam, speaker and microphone.

Evaluation

The University policy on grading and related matters is described in section F of the 2021-2022 Calendar.

In determining the overall grade in the course, the following weights will be used:

ASSIGNMENT	VALUE	LEARNING OUTCOME
Paper Analysis I	10%	Analyze original works by philosophers of science and other scholars
Paper Discussion I	20%	Lead a discussion on a scholarly paper Apply conceptual tools to elucidate problems at the intersection of science and society Analyze original works by philosophers of science and other scholars
Paper Discussion I Planning Document	10%	Analyze original works by philosophers of science and other scholars Apply conceptual tools to elucidate problems at the intersection of science and society
Paper Analysis II	20%	Analyze original works by philosophers of science and other scholars
Paper Discussion II	25%	Lead a discussion on a scholarly paper Apply conceptual tools to elucidate problems at the intersection of science and society Analyze original works by philosophers of science and other scholars
Paper Discussion II Planning Document	15%	Analyze original works by philosophers of science and other scholars Apply conceptual tools to elucidate problems at the intersection of science and society

A student's final grade for the course is the sum of the separate assignments. It is not necessary to pass each assignment separately in order to pass the course.

There is NO Registrar-scheduled exam for this course.

Brief Description of Graded Items (detailed instructions available on D2L)

Paper Analysis I: A maximum 400 words paper articulating the argument made in one of the readings chosen by a classmate for that classmate's Paper Discussion I. Due the evening BEFORE paper is to be discussed in class. (Note that the course instructor will match you to a classmate's reading)

Paper Discussion I: Lead a ~30-minute discussion of a reading selected by the student and approved by the instructor. (See Course Schedule)

Paper Discussion I Planning Document: a description of the reading you will focus on in your Paper Discussion I, 1 or 2 learning objectives and an explanation of how the reading's topic relates to course themes. Due 1 week prior to your in-class Paper Discussion.

Paper Analysis II: A maximum 600 words paper articulating and evaluating the argument made in one of the readings chosen by a classmate for that classmate's Paper Discussion II. Due the evening BEFORE paper is to be discussed in class. (Note that the course instructor will match you to a classmate's reading)

Paper Discussion II: Lead a ~60-minute discussion of a reading selected by the student and approved by the instructor. (See Course Schedule).

Paper Discussion II Planning Document: a description of the reading you will focus on in your Paper Discussion II, 2 or 3 learning objectives and an explanation of how the reading's topic relates to course themes. Due 1 week prior to your in-class Paper Discussion II.

A Note regarding Writing Assignments:

Writing skills are important to academic study in all disciplines. In keeping with the University of Calgary's emphasis on the importance of academic writing in student assignments (section E.2 of 2021-22 Calendar), writing is emphasized, and the grading thereof in determining a student's mark in this course. The Bachelor of Health Sciences values excellence in writing. Competence in writing entails skills in crafting logical, clear, coherent, non-redundant sentences, paragraphs, and broader arguments, as well as skills with the mechanics of writing (grammar, spelling, punctuation). Sources used in research papers must be properly documented. The University of Calgary offers instructional services through the Students' Success Centre's Writing Support Services (<http://www.ucalgary.ca/writingsupport/>) for students seeking feedback on assignments or seeking to improve their general writing skills. Students are **strongly encouraged** to take advantage of these programs.

Grading Scheme:

Letter Grade	Description	Percentage
A+	Outstanding performance	96-100
A	Excellent performance	90-95
A-	Approaching excellent performance	85-89
B+	Exceeding good performance	80-84
B	Good performance	75-79
B-	Approaching good performance	70-74
C+	Exceeding satisfactory performance	65-69
C	Satisfactory performance	60-64
C-	Approaching satisfactory performance	57-59
D+	Marginal pass	54-56
D	Minimal pass	50-53
F	Did not meet course requirements	0-49

Missed Components of Term Work:

Students will lose 10% per day late past the deadline for all assignments.

Course Evaluations and Student Feedback

Student feedback will be sought at the end of the course through the Universal Student Rating of Instruction (USRI) and a qualitative student evaluation. Students are welcome to discuss the process and content of the course at any time with the instructor. Students may also address any concerns they may have with Dr. Ebba Kurz, Associate Dean (Undergraduate Health and Science Education) in the Cumming School of Medicine (kurz@ucalgary.ca).

Attendance

While attendance will not be taken in MDSC 307, and there is no formal participation grade, attendance is EXTREMELY IMPORTANT. In particular, students should make every effort to attend classmates' in-class paper discussions. Just as you will want a lively audience when you present, you should provide one for your classmates.

Conduct During Lectures

The classroom should be respected as a safe place to share ideas without judgement - a community in which we can all learn from one another. Students are expected to frame their comments and questions to lecturers in respectful and appropriate language, always maintaining sensitivity towards the topic. Students, employees, and academic staff are also expected to demonstrate behaviour in class that promotes and maintains a positive and productive learning environment.

As members of the University community, students, employees and academic staff are expected to demonstrate conduct that is consistent with the University of Calgary Calendar, the Code of Conduct and Non-Academic Misconduct policy and procedures, which can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures>.

Students are expected to take notes during class and should not rely solely on material supplied by the instructors.

Use of Internet and Electronic Communication Devices in Class

The Bachelor of Health Sciences program aims to create a supportive and respectful learning environment for all students. The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. However, research studies have found that inappropriate/off-topic use of electronic devices in the classroom negatively affects the learning of others during class time.

Students are responsible for being aware of the University's Internet and email use policy, which can be found at <https://www.ucalgary.ca/policies/files/policies/electronic-communications-policy.pdf>.

UNIVERSITY OF CALGARY POLICIES AND SUPPORTS**Copyright**

All students are required to reach the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material->

[protected-by-copyright-policy.pdf](#)) and requirements of the Copyright Act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy <https://www.ucalgary.ca/pubs/calendar/current/k.html>.

Instructor Intellectual Property

Course materials created by instructors (including course outlines, presentations and posted notes, labs, case studies, assignments, and exams) remain the intellectual property of the instructor. These materials may **NOT** be reproduced, redistributed, or copied without the explicit consent of the professor. **The posting of course materials to third-party websites such as note-sharing sites without permission is prohibited.** Sharing of extracts of these course materials with other students enrolled in the course **at the same time** may be allowed under fair dealing.

Academic Accommodations

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The Student Accommodations policy is available at <https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations>. Students needing an accommodation based on disability or medical concerns should contact Student Accessibility Services (SAS) in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities.pdf>). SAS will process the request and issue letters of accommodations to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to Dr. Ebba Kurz, Associate Dean (Undergraduate Health and Science Education) (kurz@ucalgary.ca).

Academic Misconduct

The University of Calgary is committed to the highest standards of academic integrity and honesty. The University of Calgary has created rules to govern all its members regarding the creation of knowledge and the demonstration of knowledge having been learned.

Academic Misconduct refers to student behaviour that compromises proper assessment of a student's academic activities and includes (but is not limited to): cheating, fabrication, falsification, plagiarism, unauthorized assistance, failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses, and failure to comply with exam regulations applied by the Registrar. **It also includes using of third-party websites/services to access past/current course material, essay/assignment writing services, or real-time assistance in completing assessments, seeking answers to assessment questions and similar, whether paid, bartered, or unpaid.**

For information of the Student Academic Misconduct Policy and Procedures, please visit: <https://ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>
<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Additional information is available on the Academic Integrity website at: <https://ucalgary.ca/student-services/student-success/learning/academic-integrity>.

Recording of Lectures

Audio or video recording of lectures (or similar) is **prohibited** except where explicit permission has been received from the instructor or it is an approved accommodation.

Freedom of Information and Protection of Privacy Act

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Appeals

If there is a concern with the course, academic matter or a grade, first communicate with the instructor. If these concerns cannot be resolved, students can proceed with an academic appeal, as per Section I of the University Calendar. Students must follow the official reappraisal/appeal process and may contact the Student Ombuds' Office (<http://www.ucalgary.ca/ombuds>) for assistance with this and with any other academic concerns, including academic and non-academic misconduct. Students should be aware that concerns about graded term work may only be initiated **within 10 business days** of first being notified of the grade. <https://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Sexual and Gender-Based Violence Policy

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual and gender-based violence policy guides us in how we respond to incidents of sexual and gender-based violence, including supports available to those who have experienced or witnessed sexual or gender-based violence, or those who are alleged to have committed sexual or gender-based violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Sexual-and-Gender-Based-Violence-Policy.pdf>.

Resources for Support of Student Learning, Success, Safety and Wellness

Student Success Centre	http://www.ucalgary.ca/ssc/
Student Wellness Centre	http://www.ucalgary.ca/wellnesscentre/
Distress Centre	http://www.distresscentre.com/
Library Resources	http://library.ucalgary.ca

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (<https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy (<http://www.ucalgary.ca/mentalhealth/>).

Student Ombuds' Office

The Student Ombuds' Office supports and provides a safe, neutral space for students. For more information, please visit www.ucalgary.ca/ombuds/ or email ombuds@ucalgary.ca

BHSc Student Faculty Liaison Committee (SFLC)

The BHSc SFLC, with elected representatives from all majors, serves to raise issues of interest to BHSc students to the program administration, including items pertaining to curriculum, scheduling and events. A list of current representatives can be found on the BHSc website.

Student Union (SU) Information

The SU Vice-President Academic can be reached at (403) 220-3911 or suvpaca@ucalgary.ca; the SU representatives for the Cumming School of Medicine can be reached at medrep1@su.ucalgary.ca or medrep2@su.ucalgary.ca.

Student Success Centre

The Student Success Centre provides services and programs to ensure students can make the most of their time at the University of Calgary. Our advisors, learning support staff, and writing support staff assist students in enhancing their skills and achieving their academic goals. They provide tailored learning support and advising programs, as well as one-on-one services, free of charge to all undergraduate and graduate students. For more information visit: <https://www.ucalgary.ca/student-services/student-success>

Emergency Evacuation/Assembly Points

As part of the University of Calgary Emergency Evacuation plan, students, faculty, and staff should locate the closest Assembly Point in case of Fire Alarm. Safety signage is posted throughout the campus showing the locations and the possible route to these locations. All students, faculty, and staff are expected to promptly make their way to the nearest Assembly Point if the Fire Alarm is activated. No one is to return into campus facilities until an all clear is given to the warden in charge of the Assembly Area. For more information, see <https://www.ucalgary.ca/emergencyplan/building-evacuation/assembly-points>

Safewalk

Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call 403-220-5333 or visit <http://www.ucalgary.ca/security/safewalk>. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.

Class Schedule

The following is a list of topics for class and associated readings. Please note that unforeseen circumstances may cause changes to the schedule with respect to the timing of topics and readings. Students will be notified of all changes in a timely manner by way of email and D2L announcements.

DATE	TOPIC	READING
12-Jan	Introductions	
14-Jan	Falsificationism	Popper, Karl (1963): Conjectures and Refutations (PDF on D2L)
19-Jan	Normal Science and Revolutionary Science	Kuhn, Thomas (1970): Logic of Discovery or Psychology of Research? (PDF on D2L)
21-Jan	Scientism	Feyerabend, Paul: How to Defend Society Against Science (PDF on D2L)
26-Jan	Application	Sparrow, Robert (2007): Killer Robots, <i>Journal of Applied Philosophy</i> Vol. 24, No. 1, 2007
28-Jan	TBD (depending on class size)	
02-Feb	2x Student-Led Discussions	TBD
04-Feb	2x Student-Led Discussions	TBD
09-Feb	2x Student-Led Discussions	TBD
11-Feb	2x Student-Led Discussions	TBD
16-Feb	2x Student-Led Discussions	TBD
18-Feb	TBD (depending on class size)	TBD
23-Feb	Term Break: no class	
25-Feb		
02-Mar	Student-Led Discussion	TBD
04-Mar	Student-Led Discussion	TBD
09-Mar	Student-Led Discussion	TBD
11-Mar	Student-Led Discussion	TBD
16-Mar	Student-Led Discussion	TBD
18-Mar	Student-Led Discussion	TBD
23-Mar	Student-Led Discussion	TBD
25-Mar	Student-Led Discussion	TBD
30-Mar	Student-Led Discussion	TBD
01-Apr	Student-Led Discussion	TBD
06-Apr	Student-Led Discussion	TBD
08-Apr	Student-Led Discussion	TBD