The University of Calgary
Bachelor of Health Sciences
Cumming School of Medicine

Academic Year 2023-2024

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 2 business days.

Time and Location:
WF 1300-1415hrs
For location see D2L

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 firstly by engaging with such philosophical ideas as…

- Demarcation: What distinguishes genuine science from pseudoscience?
- Confirmation: How does observational evidence give us reason to accept scientific theories?
- 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 has science become oppressive?

… helping students develop a toolkit for taking on social justice issues emerging from the natural and social sciences.

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 and critiques of both particular areas of science and science as a whole.
- Analyze original works by philosophers of science and other scholars.

- Lead a discussion of a scholarly paper.
- Apply conceptual tools to elucidate problems at the intersection of science and society.

Transferable Skill Development:
Many of the skills and abilities that you are developing in your coursework are transferable to the workforce, graduate and professional studies and other facets of life. Employers seek applicants with transferable skills because they can be an asset in the workplace, regardless of industry or sector. Transferable skills are core skills for your success in building your future career.

The work that you will do in MDSC 307 will help you build the following transferable skills:

- **Collaboration**: Work respectfully with others from different backgrounds, cultures, and countries.
- **Verbal Communication**: Learn and share information by presenting, listening, and interacting with others.
- **Creativity and Innovation**: Find different and better ways to do things, being curious, thinking imaginatively.
- **Critical Thinking**: Actively and skillfully conceptualize, apply, analyze, synthesize, and/or evaluate information (data, facts, observable phenomena, and research findings) to make a reasoned judgement or draw a reasonable conclusion.
- **Information Literacy**: Find, understand, and use information presented through words, symbols, and images
- **Problem solving**: Identify an issue, find and implement a solution, and assess whether the situation has improved
- **Written Communication**: Share ideas and information by using words, images, and symbols.

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

Recommended Textbooks/Readings
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.

A laptop, desktop, tablet or mobile device is required for D2L access. If you need help accessing or using D2L, please visit the Desire2Learn resource page for students: http://elearn.ucalgary.ca/d2l-student/.

Evaluation
The University policy on grading and related matters is described in section F of the 2023-2024 Calendar.

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

ASSIGNMENT	VALUE	LEARNING OUTCOME
Discussion Board Questions and Responses (lecture readings)	20%	• Analyze original works by philosophers of science and other scholars • Apply conceptual tools to elucidate problems at the intersection of science and society
Paper Discussion	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 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
3x Paper Discussion Responses	30% (3x 10%)	• Apply conceptual tools to elucidate problems at the intersection of science and society • Analyze original works by philosophers of science and other scholars
Participation	10%	• Grasp fundamental conceptual issues about science such as demarcation, confirmation, theory change, and critiques of science • 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

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 will be made available on D2L)

Discussion Board Questions/Comments and Responses: Post 1x question or comment (minimum 5 sentences) about each of the lecture readings and respond to 2x of your classmates' questions about each of the lecture readings (minimum 3 sentences).

Paper Discussion: Working in groups of 2 or 3, lead a maximum 60-minute discussion of a reading selected by your group and approved by the instructor. (See Course Schedule.)

Paper Discussion Planning Document (500-600 words): a description of the reading selected for your Paper Discussion, 2 or 3 learning objectives, an explanation of how the reading's topic relates to course themes. Due 10 days prior to your in-class Paper Discussion. (Students will have the option of submitting a second draft in response to feedback from the course instructor.)

3x Paper Discussion Responses: Each student will be matched with three of their classmates' Paper Discussions and will submit a maximum 300–500-word response to an idea or argument from the reading selection for that discussion or to an issue that emerged in the Paper Discussion session. Due 1 week after the relevant in-class Paper Discussion.

Participation: Participation scores will be a function of contributions to online discussions about Paper Discussion readings, attendance to and contribution at student group-led discussions.

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 2023-24 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	90-95.99
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	Does not meet course requirements	0-49

Missed Components of Term Work:
Students will lose 5% per day late past the deadline for all assignments. In this case, assignments will **NOT** be accepted more than 72 hours after the posted deadline and students failing to submit any assignment within this time frame will receive a mark of zero.

As per University Calendar Section G.1.2, **students who are absent from an in-class assessment will receive a mark of zero on the missed component.** Students who are absent are responsible for contacting their instructor to discuss the impact of their missed assessment. The instructor may ask for supporting documentation to confirm an absence. Alternative opportunities for completing missed assessments or shifting of the assessment weight **may** be possible but are not guaranteed. Students who are identified as falsifying information related to missed assessments will be subject to investigation for academic misconduct.

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. Fabiola Aparicio-Ting, Associate Dean (Undergraduate Health and Science Education) in the Cumming School of Medicine (feaparic@ucalgary.ca).

Attendance

As part of your Participation score for this course, students are expected to attend their classmates' Paper Discussion sessions.

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/student-services/student-conduct/policy .

Students are expected to take notes during class and should not rely solely on material supplied by the instructors. Instructors may or may not post lectures notes to D2L, at their individual discretion. Instructors may cover concepts or examples in class that may not be posted to D2L but may be assessed.

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/legal-services/sites/default/files/teams/1/Policies-Acceptable-Use-of-Electronic-Resources-and-Information-Policy.pdf.

Use of Artificial Intelligence Tools
Artificial intelligence tools are very good at many things, including summarizing longer texts. This is not the same thing as reconstructing the argument that an author makes in an article, book chapter, or other piece of writing. Doing the latter is an important skill that we want you to develop in this course, as is critical evaluation of arguments.

Students may use AI tools to produce a summary of readings that are assigned for this course as an initial step in understanding the readings (e.g. you may use a summary of the reading to give you enough of a sense of the content to help you make your way more easily through the reading itself). **However, students may not copy or paraphrase any generative AI applications, including ChatGPT and other AI writing assistants) for the purpose of completing assignments in this course.** All work submitted for this class (including on Perusall) assignment must be original work produced by the individual student alone. Use of generative AI for written assignments in this course may be considered use of an unauthorized aid, which is a form of cheating and a breach of academic integrity subject to Academic Misconduct procedures.

UNIVERSITY OF CALGARY POLICIES AND SUPPORTS

Copyright
All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) 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/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.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. Fabiola Aparicio-Ting (feaparic@ucalgary.ca), Associate Dean, Undergraduate Health and Science Education.

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://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy.

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.

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/student-services/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 violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual 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/
Student Advocacy and Wellness Hub (CSM)
https://cumming.ucalgary.ca/mdprogram/current-students/student-advising-wellness
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 UCalgary Wellness Centre (https://www.ucalgary.ca/wellness-services/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/student-services/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.

The following is a list of topics for class, associated readings, and assignment / exam due dates. 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. The exam dates are firm and will not be altered.

DATE	TOPIC	READING
10-Jan	Introductions/Syllabus Review	NONE
12-Jan	Introduction to Philosophy of Science	NONE
17-Jan	Demarcation	Thagard, Paul (1978) "Why Astrology is a Pseudoscience" *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association* , Vol. 1978 contributed papers, pp. 223-234
19-Jan	Demarcation	Simon Schaffer Podcast https://www.cbc.ca/player/play/1479821350
24-Jan	Confirmation	Philip Kitcher "Believing Where we Cannot Prove"
26-Jan	Rise of the Machines	Sparrow, Robert (2007) "Killer Robots" *Journal of Applied Philosophy* Vol. 24, No. 1, 2007
31-Jan	Disability	Amundson, Ron (2005) "Disability, Ideology, and Quality of Life: a bias in biomedical ethics" in Wasserman, Bickerbach, Wachbroit (2005) *Quality of Life and Humanb Difference* . Cambridge University Press. pp. 101-124
02-Feb	Scientism	Feyerabend, Paul: How to Defend Society Against Science (PDF on D2L)
07-Feb	Feminism	Longino
09-Feb	Ways of Knowing	Tallbear
14-Feb		
16-Feb	Paper Discussion Assignment Instructions Review/Q&A	
21-Feb	TERM BREAK	
23-Feb	TERM BREAK	
28-Feb	Group 1 Paper Discussion	
01-Mar	Group 2 Paper Discussion	
13-Mar	Group 3 Paper Discussion	
15-Mar	Group 4 Paper Discussion	
20-Mar	Group 5 Paper Discussion	
22-Mar	Group 6 Paper Discussion	
27-Mar	Group 7 Paper Discussion	
29-Mar	GOOD FRIDAY	

03-Apr	TBA	
05-Apr	NONE	