

## **MDSC 307**

### **Science, Philosophy and Society**

#### **Instructors:**

Dr. Jesse Hendrikse

Department of Community Health Sciences

[jlhendri@ucalgary.ca](mailto:jlhendri@ucalgary.ca)

#### **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

HS O1508

Foothills Campus

#### **Prerequisite/Co-Requisite:**

Second year or higher in the BHSc Honours program or consent of the instructor

#### **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 about science as the following:

- Demarcation: What distinguishes genuine science from pseudoscience?
- Inference: How does observational evidence give us reason to accept scientific theories?
- Explanation: Beyond producing means of predicting and controlling the flow of events, science seems to increase our understanding of the world. What does it mean to *explain* some phenomenon?
- Realism: Are scientific theories the sorts of things that are true or false? Or are theories better understood as *instruments* that can be used for prediction and control?

- 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?

Investigation of the above issues will be put to use to explore the following:

- Impact of technological change
- Public understanding of science
- Complementary and Alternative Medicine
- Nature/Nurture dichotomy
- Evidence Based Medicine

## **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.

## **Learning Objectives**

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

- Grasp fundamental conceptual issues about science such as demarcation, confirmation, explanation, realism and progress
- Analyze original works by philosophers of science and other scholars
- Apply conceptual tools to elucidate problems at the intersection of science and society such as the impacts of technology, CAM, Nature/Nurture, EBM, Pluralism and Scientism

## **Required Textbooks**

Okasha, Samir (2002) *Philosophy of Science: a very short introduction*. Oxford University Press.

## **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 for all course sections 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.

## Evaluation

The University policy on grading and related matters is described in section F.2 of the 2018-2019 Calendar.

Final Grades will be determined by the student's scores on several equally weighted in-class quizzes. Each student's lowest two quiz scores will be dropped (i.e. two lowest scores will not factor into the final grade calculation).

Students need not write all quizzes and need not get a passing grade on all quizzes in order to pass the course. Most sessions will begin with a 15-minute quiz. Questions will be made available the evening before each quiz.

## 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 2018-19 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). The University of Calgary offers a number of 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:

A+ 97-100%	B+ 80-84%	C+ 65-69%	D+ 54-56%
A 90-96%	B 75-79%	C 60-64%	D 50-53%
A- 85-89%	B- 70-74%	C- 57-59%	F 0-49%

## Missed Components of Term Work:

Students will score ZERO for any missed quizzes. The only exceptions to this policy are those in keeping with the *University of Calgary Calendar* (illness, religious conviction, or domestic affliction) which are received **in advance**, in writing and with supporting documentation. Traffic jams and late or full busses are common events in Calgary and are NOT acceptable reasons for late arrivals to classes, meetings and examinations. Plan for transportation delays. Religious observances do not excuse late submissions. Please note that while absences are permitted for religious reasons, students are responsible for providing advance notice and adhering to the other guidelines on this subject, as outlined in the *University of Calgary Calendar*.

## **Brightspace by Desire2Learn (D2L)**

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.

If you need help accessing or using D2L, please visit the Desire2Learn resource page for students: <http://elearn.ucalgary.ca/d2l-student/>.

## **Policies Governing the Course:**

### **Attendance**

It is important that you make every effort to attend all sessions since much learning in this course will be gained through in-class discussions. Please notify the instructor directly via email for any extended absences.

### **Conduct During Lectures**

This course will involve class discussions and sharing of ideas and personal views. 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. Debates that arise must be conducted in a mature and respectful manner. Use of derogatory or abusive language will not be tolerated.

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

### **Electronic Devices**

The Bachelor of Health Sciences program aims to create a supportive and respectful learning environment for all students. Research studies have found that student use of electronic devices (laptops, tablets, etc) in the classroom negatively affects the learning of both the user and those sitting nearby. Inappropriate use of laptops is also disruptive to your fellow classmates and disrespectful to the lecturer. The use of laptops and other electronic note-taking devices is permitted; however, their use in the classroom should be for course-related work/note-taking only. Please do **NOT to surf the web, check email or do other unrelated work**. Students who use their laptops inappropriately or are otherwise disruptive during lectures will be asked to leave.

Cell phones (or similar devices) should **be turned off** (not merely silent) upon entering the classroom. Sending/receiving text messages or leaving the class to take calls is disruptive to the entire class and will not be tolerated unless absolutely necessary. Students who disregard this rule during lectures or tutorials will be asked to leave. These items are not permitted under any circumstance during exams/quizzes, etc.

### **Copyright**

It is the responsibility of students and professors to ensure that materials they post or distribute to others comply with the Copyright Act and the University's Fair Dealing Guidance for Students ([library.ucalgary.ca/files/library/guidance\\_for\\_students.pdf](http://library.ucalgary.ca/files/library/guidance_for_students.pdf)). Further information for students is available on the Copyright Office web page (<http://library.ucalgary.ca/copyright>)

### **A Note Regarding Instructor Intellectual Property**

Generally speaking, course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). 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 Based on Disability or Medical Condition**

It is the student's responsibility to register with Student Accessibility Services to be eligible for formal academic accommodation 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\\_0.pdf](https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf)). If you are a student who may require academic accommodation and have not registered with Student Accessibility Services, please contact their office at (403) 220-8237; <http://www.ucalgary.ca/access/>. Students will be provided with all necessary accommodations to ensure equal opportunity to succeed in this course. Please provide the instructor your accommodation letter from Student Accessibility Services within 14 days after the start of this course so that all needed arrangements for exams and assignments can be made.

### **Accommodations on Protected Grounds other than Disability**

Students who require an accommodation in relation to their coursework based on a protected ground other than disability, should communicate this need, preferably in writing, to the designated BHSc program contact, Mrs. Jennifer Logan ([jljlogan@ucalgary](mailto:jljlogan@ucalgary)), or to Dr. Ebba Kurz, Associate Dean, Undergraduate Health and Science Education, Cumming School of Medicine. Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit [www.ucalgary.ca/access/](http://www.ucalgary.ca/access/).

### **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. These rules are contained principally in Sections J to L of the *University of Calgary Calendar*. Students are expected to be familiar with these standards and to uphold the policies of the University in this respect. The Calendar also stipulates the penalties for violating these rules. Please know that the University and the Cumming School of Medicine take these rules seriously. **All incidences**

**of academic dishonesty in this course, such as cheating and plagiarism, will be reported to the Associate Dean for investigation;** infractions will be noted on the record of a student found to be guilty.

### **Recording of Lectures**

Audio or video recording of lectures is prohibited except where explicit permission has been received from the instructor.

### **Other Important Information**

#### **Freedom of Information and Protection of Privacy Act**

This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP); students should identify themselves on written assignments (exams and term work) by their name and ID number on the front page and ID on each subsequent page. Work assigned to you by your course instructor will remain confidential unless otherwise stated before submission. The assignment cannot be returned to anyone else without your expressed permission to the instructor. Grades will be made available on an individual basis and students will not have access to other students' grades without expressed consent. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else without your permission. See <http://www.ucalgary.ca/policies/files/policies/privacy-policy-2011.pdf> for more information.

#### **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 15 days** of first being notified of the grade.

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

Student Success Centre	<a href="http://www.ucalgary.ca/ssc/">http://www.ucalgary.ca/ssc/</a>
Student Wellness Centre	<a href="http://www.ucalgary.ca/wellnesscentre/">http://www.ucalgary.ca/wellnesscentre/</a>
Distress Centre	<a href="http://www.distresscentre.com/">http://www.distresscentre.com/</a>
Library Resources	<a href="http://library.ucalgary.ca">http://library.ucalgary.ca</a>

#### **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 (Room 370

MacEwan Student 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/](http://www.ucalgary.ca/ombuds/) or email [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca)

### **Student Union (SU) Information**

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

### **Emergency Evacuation/Assembly Points**

Assembly points for emergencies have been identified across campus. Assembly points are designed to establish a location for information updates from the emergency responders to the evacuees; and from the evacuated population to the emergency responders. The primary assembly point for the Health Sciences Centre is the HRIC Atrium. For more information, see the University of Calgary's Emergency Management website: <http://www.ucalgary.ca/emergencyplan/assemblypoints>.

### **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**

Available on D2L