McGill

PHILOSOPHY OF SCIENCE 1: EPIDEMIOLOGY & POPULATION HEALTH

The land on which this class takes place is traditional and unceded territory of the Kanien'keha:ka (Mohawk), a place which has long served as a site of meeting and exchange amongst nations.

GENERAL INFORMATION

Course code: PHIL 341
Prerequisites: There are no prerequisites for this course.
Term: Winter, 2021
Course schedule: Tuesdays (T) & Thursdays (Th) 04:05–05:25PM EST.
Course location: Due to the global Covid-19 pandemic, this course will be delivered remotely.

INSTRUCTOR INFORMATION

Name: Sarah Clairmont (she/her/elle)
Email: sarah.clairmont@mcgill.ca
Office hours: Thursdays 03:05–04:05PM (EST) via Zoom.

COURSE DESCRIPTION

Epidemiology is the scientific study of the distribution of health and the determinants of disease in and across human populations. Until recently, epidemiology has been largely ignored in the philosophy of science – despite a number of conceptual and methodological concerns. This course examines both classical problems in the philosophy of science, as applied to epidemiology, and philosophical themes that are unique to the field. The course is divided into three modules. Module 1 examines how classical debates in the history and philosophy of science apply to epidemiology specifically. Module 2 covers a contemporary methodological debate in epidemiology about the biological and social determinants of disease. Module 3 examines scientific and social values in epidemiology, as well as some of the legal and policy implications of epidemiologic research.

REMOTE DELIVERY

Course lectures will be delivered via Zoom on Tuesdays from 04:15-05:15PM (EST*), with one exception:* the first lecture will take place on Thursday January 7th from 04:15–05:15PM (EST). Lectures will be approximately 30 minutes followed by group discussion. All lectures and subsequent discussions will be recorded and uploaded to MyCourses in both video and audio-only format.

Bi-weekly Q & A sessions will be held every other Thursday from 04:15–05:15PM (EST) via Zoom. Attendance to either course lectures or Q & A sessions is encouraged but not mandatory.

ZOOM ETIQUETTE

Unless you are speaking, please mute your microphone while attending Zoom lectures or Q & A sessions to avoid interference. Please make use of the electronic hand-raising function to notify the Instructor of a question or comment. In order to make the virtual space more accessible, I encourage students to keep their video turned on when speaking.

COURSE MATERIAL AND READINGS

All required readings are available in electronic format, on MyCourses or through the McGill library.

ASSESSMENT & LEARNING OBJECTIVES

N.B.: This course uses a teaching and learning strategy called "assignment scaffolding." Assignment scaffolding "can help students succeed by breaking down complicated tasks and content into manageable parts of gradually increasing complexity" (University of Toronto Center for Teaching and Learning). Each assignment is designed to guide students through the process of planning and completing a successful term paper. Specific learning objectives are provided below.

Assignment	Weight	Due Date
Module 1 Quiz	20%	Friday Feb. 12th
Module 2 Exercise *(collaborative option)*	25%	Monday March 15th
Term paper outline	20%	Friday March 26th
Term paper	35%	Tuesday April 13th

Module 1 Quiz (20%)

The module 1 quiz will be compromised of approximately 15-20 multiple-choice questions on material from module 1. The quiz will be available on MyCourses for one week (during week 6) and must be completed by 11:59PM Fri. **Feb. 12th**. You will be allowed multiple attempts.

Learning objective: the purpose of this quiz is to help students identify key concepts from the first module; having a clear grasp of these difficult concepts will better prepare you for subsequent assignments.

Module 2 Exercise (25%)

Students will be asked to respond to a set of questions contrasting the biomedical model with one of the alternative social models examined in module 2. You will have the option to work independently, but you are encouraged to complete this exercise with a partner (or in groups of three). This is a written assignment (max. 750 words) and must be submitted in either .docx or .PDF format. Responses are due by 11:59PM Mon. **Mar. 15th**. Further instructions will be provided in class.

Learning objectives: the purpose of this exercise is to help students articulate complex ideas in a clear and concise way. It gives you the opportunity to work collaboratively and will prepare you for the term paper, which requires you to defend one of these positions in light of recent epidemiologic research.

Term Paper Outline (20%)

This is an outline of your final paper. It is a written assignment (*max. 2 pages*) and must be submitted in either .docx or .PDF format. The term paper outline should (i) clearly state the proposed essay topic, including a thesis statement and (ii) provide a brief overview of the relevant literature (including a brief summary of the selected medical study). Further instructions for the term paper outline will be provided in class. The term paper outline is due by 11:59PM Fri. **Mar. 26th.**

Learning objective: The purpose of the term paper outline is to present students with the opportunity to receive detailed feedback from the Instructor about how they see the theory as applied to the science.

Term Paper (35%)

This is a written assignment (*max. 1200 words*) and must be submitted in either .docx or PDF format. Your term paper must engage with at least one recent medical study. Students may choose from a list of possible studies provided by the Instructor or find their own. (We will go over research strategies in class.) Further instructions for the paper will be given in class. The term paper is due Tues. **Apr 13th**.

Learning objectives: The purpose of the term paper is to provide students with an opportunity to (i) develop in-depth knowledge of a particular issue within the philosophy of epidemiology; (ii) explain difficult ideas in a clear and concise way, and (iii) apply their knowledge to recent medical science.

COURSE POLICIES

Email policy: Please include 'PHIL 341' in the subject line of all emails related to this course. Before emailing the Instructor, check the course syllabus to see if the answer to your question can be found there. Short emails (with clear, pointed questions) are appreciated and will be responded to more quickly. I will do my best to reply within 24 hours, excluding weekends. Questions about course content should be asked *in person* (via Zoom), during office hours or by appointment.

Accommodations: If you are a student with a disability and think you may encounter barriers in this course, you are strongly encouraged to contact OSD (Office for Students with Disabilities) and register. Please inform the Instructor of any accommodations you may require.

Submitting work: All assignments are to be submitted online, through MyCourses (not by email) and must be submitted in either .docx or PDF format unless otherwise specified.

Lateness and extensions: Extensions will be granted only in exceptional circumstances, usually for medical reasons or similar emergencies, appropriately documented. Late work will be penalized at the rate of 5% per calendar day past the due date. E.g., a paper submitted one day late that is evaluated at 75% will receive a final grade of 70%, if two days late, 65% and so on. Work submitted more than seven days late will receive a mark of 0.

Language of Submission: In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Academic Integrity: McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism, and other academic offences under the Code of Student Conduct and Disciplinary Procedures. (See www.mcgill.ca/students/srr/honest/ for more information).

Syllabus change policy: The syllabus is intended as a guide for the course and is subject to change and/or revisions with advanced notice.

COURSE SCHEDULE & READINGS (next page)

WK	DATE	TOPIC	READINGS
MODULE 1: CLASSICAL PROBLEMS IN EPIDEMIOLOGY			
1	(Th) Jan. 7	Introduction: Why Epidemiology?	Broadbent (2013) Ch. 1: "Why philosophy of epidemiology" *~8 pages~*
2	(T) Jan. 12 (Th) Jan. 14	Lecture: Problems of Induction Q & A session	Broadbent (2013) Ch. 2: "Philosophical and epidemiological basics" *~15 pages~* [Optional] Hume (1748) excerpt from *An Enquiry Concerning Human Understanding*
3	(T) Jan. 19 *(Add/Drop Deadline: Friday Jan. 22)*	Lecture: Causation	Broadbent (2013) Ch. 3: "The Causal Interpretation Problem" *~30 pages~*
4	(T) Jan. 26 (Th) Jan. 28	Lecture: Stability Q & A session	Broadbent (2013) Ch. 4: "Causal inference, translation, and stability" ~ *9 pages~* Practice Quiz (with Nicole Perkins)
5	(T) Feb. 2	Lecture: Objectivity & the Social Structure of Science	Machamer and Wolters (2004) Introduction: Science, Values, and Objectivity" *~13 pages~*
MODULE 2: METHODOLOGICAL DEBATES			
6	(T) Feb. 9 (Th) Feb. 11	Lecture: The biomedical model I Q & A session	[1] Krieger (2011) ch 5, pp.126-148 [2]https://www.youtube.com/watch?v=h_kbt7h1YRw Open discussion
	Deadline to complete Module 1 Quiz: 11:59PM Fri. Feb. 12th		
7	~~(T) Feb. 16~~ *rescheduled for Thurs. Feb. 18*	Lecture: The biomedical model II & Introduction to Social Epidemiology	[1] Krieger (2011) ch. 5, pp.148-162 [2] Krieger (2011) ch. 6.

8	(T) Feb. 23 (Th) Feb. 25	Lecture: Social Epidemiology I Q & A session	Krieger (2011) Ch. 6, sociopolitical frameworks Continuation: medical models & social epistemology
~ Study Week (Mar. 1-5) ~			
9	(T) Mar. 9 (Th) Mar. 11	Lecture: Social Epi. II Q & A session	Krieger (2011) Ch. 6, psychosocial frameworks Presentation: Engaging medical research in a philosophy undergraduate term paper (Nicole Perkins)
	Deadline to submit Module 2 Exercise: 11:59PM Mon. Mar. 15th		
MODULE 3: POPULATION HEALTH, BEYOND THE SCIENCE			
10	(T) Mar. 16	Lecture: Policy implications	Douglas (2004) "Border skirmishes between science and policy: autonomy, responsibility, and values" *~21 pages~*
11	(T) Mar. 23 (Th) Mar. 25	Lecture: Values in Epi II Q & A session	Keyes and Galea (2016) "Equity and efficiency in population health science" Term paper outline workshop
	Term Paper outline due by 11:59PM Fri. Mar. 26th		
12	(T) Mar. 30	Lecture: Values in Epi III	Sen (2006) "Why health equity?" *~11 pages~*
13	(T) Apr. 6	Lecture: Legal implications	Broadbent (2013) Ch. 11: "Epidemiology and the law" *~20 pages~*
14	(T) Apr. 13	Review & Wrap Up	*~ No Readings ~*
Deadline to submit term paper: 11:59PM Tues. April 13th			