

Acknowledgement

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

Course Information

Course Title	Course Code Number	Credit Value
Environmental Impacts on Human Health	SPPH 381C	3
Prerequisites		
None		
Corequisites		
None		

Contacts

Course Instructor(s)	Contact Details	Office Location	Office Hours
Kate Weinberger	kate.weinberger@ubc.ca (likely to respond within 1-2 working days)	SPPH 366A	Mondays 4:00-5:00pm Pacific Time Held via Zoom (see Canvas site for link and password)
Course Instructor Biographical Statement			
https://www.spph.ubc.ca/person/kate-weinberger/			

Other Instructional Staff

Teaching assistants: TBA

Course Structure and Description

Description

The World Health Organization defines environmental health as “those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social, and psychosocial factors in the environment.” This course will introduce students from a variety of

disciplinary backgrounds to the field of environmental health. Topics covered will include 1) harmful environmental exposures in water, air, and food (e.g., air pollution, pesticides); 2) aspects of the environment that are beneficial for health (e.g., urban forests, walkable neighbourhoods), and 3) emerging environmental health threats (e.g., climate change, global environmental change). This course will also provide an overview of tools that are used to generate information about the relationship between the environment and health (e.g., epidemiology, risk assessment) and how this information informs public health policy and practice. Students will also have the opportunity to engage more deeply on a particular environmental health topic of their choosing.

Structure

This course will be held entirely online due to the COVID-19 pandemic. Given the unprecedented situation arising from the pandemic, this course will be taught in a partially asynchronous format in order to allow students flexibility to complete course material at the time of the week that works best for them. The course will be divided into 12 week-long modules. Each weekly module will proceed as follows:

- 1) Each week, module content will be posted on Canvas by Thursday at 5:00pm.
- 2) You will have until the following Wednesday at 4:00pm to complete the module content. The content will typically include a pre-recorded lecture, a set of required readings, and a short assessment (either a quiz or a reading reflection, to be completed on Canvas).
- 3) A “live” course session will be held on **Wednesday from 4:00-5:30pm on Zoom**. During these Zoom sessions, you will participate in discussions and exercises that will build on concepts from the asynchronous module content, as well as hear from and interact with guest lecturers who conduct research in the field of environmental health. Recordings of these Zoom sessions will be posted on Canvas.

Please see the “Schedule of Topics” section below for additional detail on the weekly course structure.

Schedule of Topics

Note: Students will be informed in advance if changes to the schedule of topics are made.

Date	Activity	Topic(s)
Module #0: Introduction to the Course		
Wednesday, September 9, 4:00-5:30pm	Zoom session #0	<ul style="list-style-type: none"> - Introductions - Overview of course content and goals - Course schedule / logistics - Orientation to the Canvas site - Expectations - Q&A
Module #1: Introduction to Environmental Health		

Module materials will be posted by Thursday, September 10 at 5:00pm		
Before 4pm on September 16 (at a time of your choosing)	Complete Module #1 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #1: Introduction to Environmental Health - Read: <ul style="list-style-type: none"> o Frumkin Ch 1 pp 58-75 in the online textbook o Public Health Agency of Canada: What determines health? - Complete Assessment #1
Wednesday, September 16, 4:00-5:30pm	Zoom session #1	<ul style="list-style-type: none"> - Q&A on Lecture #1 - Environmental disasters activity
Module #2: Environmental Health Tools		
Module materials will be posted by Thursday, September 17 at 5:00pm		
Before 4pm on September 23	Complete Module #2 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #2: Epidemiology & Toxicology - Read: <ul style="list-style-type: none"> o Frumkin Ch 4 pp 162-170 o Frumkin Ch 6 pp 211-222 o Frumkin Ch 8 pp 291-295 - Complete Assessment #2
Wednesday, September 23, 4:00pm-5:30pm	Zoom session #2	<ul style="list-style-type: none"> - Q&A on Lecture #2 - Introduction to exposure assessment - "Estimate your exposure" activity
Module #3: Environmental Health Tools, continued		
Module materials will be posted by Thursday, September 24 at 5:00pm		
Before 4pm on September 30	Complete Module #3 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #3: Risk Assessment and Health Impact Assessment - Read: <ul style="list-style-type: none"> o Frumkin Ch 27 pp 1032-1054 o Frumkin Ch 15 pp 560-561 (Text Box 15.5) - Complete Assessment #3
Wednesday, September 30, 4:00pm-5:30pm	Zoom session #3	<ul style="list-style-type: none"> - Q&A on Lecture #3 - Introduction to risk communication - Risk communication activity (draft a press release)
Module #4: Water and Noise Pollution		
Module materials will be posted by Thursday, October 1 at 5:00pm		
Before 4pm on October 7	Complete Module #4 activities on Canvas	<ul style="list-style-type: none"> - Watch: <ul style="list-style-type: none"> o Flint: After the Drinking Water Crisis - Read: <ul style="list-style-type: none"> o Frumkin Ch 16 pp 585-626, excluding the section titled "Regulatory Framework" on pp 622-624 - Complete Assessment #4
Wednesday, October 7, 4:00pm-5:30pm	Zoom session #4	<ul style="list-style-type: none"> - Guest lecture on water and noise pollution (Dr. Hugh Davies)
Module #5: Air Pollution		
Module materials will be posted by Thursday, October 8 at 5:00pm		
Before 4pm on October 14	Complete Module #5 activities on Canvas (<i>note:</i>	<ul style="list-style-type: none"> - Read: <ul style="list-style-type: none"> o Frumkin Ch 13 pp 457-483

	<i>module is shorter to accommodate the Thanksgiving holiday)</i>	<ul style="list-style-type: none"> o Frumkin Ch 14 pp 490-500 - Complete Assessment #5
Wednesday, October 14, 4:00pm-5:30pm	Zoom session #5	<ul style="list-style-type: none"> - Guest lecture on outdoor and indoor air pollution (Dr. Michael Brauer)
<p>Module #6: Food Systems, Health, and the Environment *Module materials will be posted by Thursday, October 15 at 5:00pm*</p>		
Before 4pm on October 21	Complete Module #6 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #6: Food Systems, Health, and the Environment - Read: <ul style="list-style-type: none"> o Frumkin Ch 19 pp 706-742 - Complete Assessment #6
Wednesday, October 21, 4:00pm-5:30pm	Zoom session #6	<ul style="list-style-type: none"> - Q&A on Lecture #6 - Food systems jigsaw discussion
<p>Module #7: The Built Environment *Module materials will be posted by Thursday, October 22 at 5:00pm*</p>		
Before 4pm on October 28	Complete Module #7 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #7: The Built Environment and Health - Read: <ul style="list-style-type: none"> o Nieuwenhuijsen & Khreis (2019). Urban & Transport planning, environment, and health. (pp. 3-17) (From: "Integrating Human Health into Urban and Transport Planning: A Framework") [pdf provided on Canvas] - Complete Assessment #7
Wednesday, October 28, 4:00pm-5:30pm	Zoom session #7	MIDTERM EXAM (covers Modules 1-6)
<p>Module #8: Natural Environments *Module materials will be posted by Thursday, October 29 at 5:00pm*</p>		
Before 4pm on November 4	Complete Module #8 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #8: Natural Environments and Health - Read: <ul style="list-style-type: none"> o Frumkin Ch 25 pp 962-969 o Nesbitt et al. 2019: "Who has access to urban vegetation? A spatial analysis of distributional green equity in 10 US cities." [pdf provided on Canvas]. Read section 1 (Introduction) and section 4 (Discussion). - Complete Assessment #8
Wednesday, November 4, 4:00pm-5:30pm	Zoom session #8	<ul style="list-style-type: none"> - Q&A on Lectures #7 and #8 - Park quality activity
<p>Module #9: Climate Change *Module materials will be posted by Thursday, November 5 at 5:00pm*</p>		
Before 4pm on November 11	Complete Module #9 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #9: Health Impacts of Climate Change

		<ul style="list-style-type: none"> - Read: <ul style="list-style-type: none"> o Frumkin Ch 12 pp 398-435 - Complete assessment #9
Wednesday, November 11	NO ZOOM SESSION (Remembrance Day)	
Module #10: Environmental Justice *Module materials will be posted by Thursday, November 12 at 5:00pm*		
Before 4pm on November 18	Complete Module #10 activities on Canvas	<ul style="list-style-type: none"> - Read: <ul style="list-style-type: none"> o Frumkin Ch 11 pp 368-375 - Watch: Robert Bullard seminar - Complete assessment #10
Wednesday, November 18, 4:00pm-5:30pm	Zoom session #10	<ul style="list-style-type: none"> - Q&A on lectures #9 and #10 - Historical housing policies, green space, and extreme heat activity
Module #11: Linkages Between the Health of People, Animals, and the Environment *Module materials will be posted by Thursday, November 19 at 5:00pm*		
Before 4pm on November 25	Complete Module #11 activities on Canvas	<ul style="list-style-type: none"> - Read: <ul style="list-style-type: none"> o Frumkin Ch 2 pp 91-119 o US CDC: "One Health Basics" - Watch: <ul style="list-style-type: none"> o One Health One Future (watch until minute 6:30). - Complete assessment #11
Wednesday, November 25, 4:00pm-5:30pm	Zoom session #11	<ul style="list-style-type: none"> - Guest lecture on One Health and <i>Cryptococcus gattii</i> (Dr. Karen Bartlett) - VIDEO PROJECT DUE
Module #12: Planetary Health + Course Wrap-up *Module materials will be posted by Thursday, November 26 at 5:00pm*		
Before 4pm on December 2	Complete Module #12 activities on Canvas	<ul style="list-style-type: none"> - Watch Lecture #12: Planetary Health - Read: <ul style="list-style-type: none"> o Seltnerich 2018: "Down to Earth: The Emerging Field of Planetary Health" [pdf provided on Canvas] - Complete Assessment #12
Wednesday, December 2, 4:00pm-5:30pm	Zoom session #12	<ul style="list-style-type: none"> - Lecture #12 Q&A - Video presentations
FINAL EXAM: DATE TBD		

Learning Outcomes

- Describe and illustrate with specific examples the ways in which environmental factors can harm or benefit health.
- Describe different methods of gaining information about the relationship between the environment and health, and explain their strengths and weaknesses.
- Describe factors that drive differences in the distribution of environmental hazards/benefits and their health impacts, both locally and globally.
- Synthesize complex environmental health issues and relay them to a general audience.

- Describe how understanding of the connections between environment and health has evolved over time.
- Critically evaluate a contemporary environmental health issue.

Learning Activities

Each week, you will be asked to complete an online module available on Canvas. This module will consist of a mixture of pre-recorded lectures, readings and videos. You will then complete an assessment that covers the material in the module. Each week this assessment will take the form either of a short quiz (maximum 5 questions) or a short response to the required reading. The week will culminate in a live Zoom session, held weekly on Wednesdays from 4:00-5:30pm, in which you will have the opportunity to apply what you learned in the online module by participating in discussions and small group activities, as well as hear from expert guest lecturers.

Outside of this weekly structure, you will be asked to work in pairs to create a 5-minute video or narrated slide presentation on a selected environmental health topic. Additional details on this project are provided in the “Assessments of Learning” section below.

Learning Materials

- 1) Assigned chapters in *Environmental Health: From Global to Local – 3rd edition*, by Howard Frumkin. This textbook is [available online at no cost](#) through the UBC library.
- 2) Additional readings and videos as outlined in the course schedule and on Canvas.

Assessments of Learning

The following assessments will contribute towards your grade in this class:

Weekly module assessments (40%): Each week, you will complete either a short quiz or reading reflection on Canvas. Each assessment will cover contents from the required reading and viewing for that week’s module. The goal of these assessments is to improve your understanding and knowledge of the course topics and to make it easier for you to remember the module content in the future. There are a total of 12 assessments, one for each module. Out of these 12 assessments, only your 10 highest scores will count towards your grade.

Midterm exam (15%): The midterm exam will cover topics from Modules 1-6. Questions will be mostly multiple choice and short answer, and will be drawn from material covered in the readings, lectures, and Zoom sessions. Please note that the Zoom sessions will be recorded and posted on Canvas for your reference.

Video project (25%) [Due November 25]: You will work in pairs to produce a 3-5 minute narrated slide presentation (e.g., in PowerPoint) or video based on an environmental health topic of your choosing. The purpose of this assignment is to give you a chance to develop deeper insight into a specific issue that interests you. A list of possible topics and detailed instructions for this project will be posted on Canvas. Example videos will also be shared on Canvas.

Final exams (20%): The final exam will be similar in format to the midterm, but will cover topics from all 12 modules. A greater emphasis will be placed on material from Modules 7-12. As with the midterm, questions will be drawn from material covered in the readings, lectures, and Zoom sessions.

University Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available [here](https://senate.ubc.ca/policies-resources-guide-students-success) (<https://senate.ubc.ca/policies-resources-guide-students-success>).

Other Course Policies

Copyright

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline. The instructor will record each synchronous Zoom session and post the recording on Canvas.