

Climate Change and Health (EHOH 6635)

Short title: Climate Change & Health
Course Syllabus, Fall 2022

Class meeting times: Tuesdays and Thursdays, 12:30-1:50 pm

Instructors: Jaime Butler-Dawson, PhD, MPH
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Office hours: Wednesdays, 10:00-11:00 via Zoom

Course Format In person lectures, discussions and workshops with a remote option.
If remote, you must be able to virtually attend scheduled class meetings.

Location Education 2 North 2302
Note, class will meet in Ed2 North 2102 on 9/15, Ed 2 North 1304 on 10/4
and 11/1.

Credit Hours: 3 credits

Prerequisites: None

Climate change is one of the great societal challenges of this century. Climate change threatens the health of all of us and yet the health impacts are not shared equitably – vulnerable populations include outdoor workers and the home-bound, children and the elderly, populations here in Colorado and around the globe. Effective response to climate change will require cross-cutting skills including the ability to rigorously evaluate the science, identify vulnerable populations, communicate with stakeholders and work across disciplines to promote health in a changing climate.

In this course, we will study the current and potential future impacts of climate change on human health. The course is designed to help you develop skills as a public health professional to enable you to assess the potential health impacts of climate change, identify vulnerable populations and assess policy and practices that can minimize harm and maximize human health. The course includes an introduction to climate science, an overview of the key health impacts, and strategies for communicating about climate and health. Emphasis is placed on building core public health skills as well as depth of knowledge on this topic – students will develop tools for evaluating the

current state of the science, interpreting climate projections, and using often incomplete information to inform climate health interventions. This course is multi-disciplinary and students from across the Colorado School of Public Health and beyond are welcome. Guest lecturers will include atmospheric scientists, clinicians, public health practitioners, epidemiologists and social scientists. Similarly, our class will benefit from the diverse perspectives of students from across different departments and professional backgrounds.

Catalog Description. This course will study the potential health impacts of climate change with an emphasis on understanding the state of the science, and developing skills to identify vulnerable populations, evaluate climate adaptation and mitigation measures and communicate with stakeholders.

CSPH Competencies addressed. Successful completion of this course will help the student to build the following public health competencies

- MPH-EHOH 2: Describe the dynamics of ecosystems and how they affect the movement of toxic agents in the environment and mediate related risks for human disease as well the quality of air, water, and soil.
- MPH EHOH 3: Analyze important current environmental health problems and variations in health risks across the global landscape.
- MPH-EHOH 4: Define the principles of sustainability and apply these principles in the development of solutions to environmental and occupational health problems.
- MPH-GLH 1: Describe contemporary and historic global health issues, programs, best practices and players.
- MPH 4: Interpret results of data analysis for public health research, policy or practice
- MPH 19: Communicate audience-appropriate public health content, both in writing and through oral presentation
- MPH 22: Apply systems thinking tools to a public health issue
- DrPH 15: Design a system-level intervention to address a public health issue

Readings and resources. You are expected to complete all assigned reading before class. Readings will be assigned from the course textbook:

Lemery, Knowlton, Sorensen (eds.) 2021. *Global Climate Change and Human Health: From Science to Practice*, 2nd Edition. Jossey-Bass. San Francisco.

The textbook is available at the CU Anschutz Bookstore (cuanschutz.bncollege.com).

In addition, assigned reading will include key reports from groups such as the Intergovernmental Panel on Climate Change, the World Health Organization, US Federal and state governments, peer-reviewed literature and popular media. These readings will be posted on the course website.

Assignments and Grading. To be successful in this course, you are expected to learn key concepts about the health impacts of climate change and demonstrate your ability to apply these concepts to specific examples. Your grade in the course will be based on the following assignments – the percent of the final grade is indicated in parentheses. Detailed instructions for each assignment will be posted on Canvas.

- Discussion assignments (40% of your grade). There will be nine assignments related to the material covered in class, typically short essays on assigned reading. Each assignment will

be posted on the course website and is due before class. We will discuss these assignments in class on the day they are due. Come to class prepared to share your work. The lowest grade on these assignments will be dropped.

- Leading class discussion (10%). Students will select an assigned reading and lead a discussion of the reading in class.
- Class participation (10%). You are expected to attend all classes and be an active participant. Come to class with comments and questions! Class participation will be based on the following criteria: active participation, evidence of preparation, quality of contribution and attendance. If you must miss class, let the instructor know ahead of time. Students are allowed one unexcused absence during the semester.
- Climate health vulnerability assessment (40%). Students will undertake a semester-long group project to assess climate vulnerabilities for a specific climate health challenge and formulate policy and/or practice recommendations to build resilience and reduce health threats. This assignment is intended to challenge you to apply the concepts studied in class to a concrete climate-health problem. The final deliverables include a written paper and an in-class presentation. In addition, students will be required to identify and meet with at least one potential stakeholder to discuss their topic and solicit input. There will be interim deadlines throughout the semester to aid your progress.

Grades will be assigned approximately as follows:

<u>Points</u>	<u>Grade</u>	<u>Points</u>	<u>Grade</u>
94-100	A	80-83	B-
90-93	A-	77-79	C+
87-89	B+	74-76	C
84-86	B	70-73	C-

Course Format. Class will be held in person with a remote option via Zoom and will primarily consist of lectures, discussions and workshops held during our scheduled class time. This is a synchronous course, students must be available to attend class, either in person or remotely, during our scheduled class time. Students are strongly recommended to attend class in person for the first week of class, for all in-person guest lectures, and for class discussions. There will be occasional Zoom class meetings.

The reading and assignments will be posted on Canvas. Please check Canvas regularly. In addition, the course will use a Slack workspace for announcements, in class activities and to facilitate discussion among members of our class. Instructions on using Slack will be provided in the first week of class. Students are expected to regularly check the course Slack workspace.

Attendance Policy. Students are highly recommended to attend class in person and be active participants in class. This course involves considerable in-class discussion and will primarily consist of synchronous in-person meetings. Commit to being present in our classroom during that time so that we may use our time together well and learn from each other. If you must miss class, let the instructor know ahead of time. Students are allowed one unexcused absence during the semester.

Citing other sources. When you use outside information in your writing, you must cite the sources of information. Any information quoted directly from another publication or website must be indicated by quotation marks. Otherwise, you should use your own words to describe the findings/ideas of others and cite the source at the end of each thought or sentence. A citation guide

is provided on Canvas. Any text that is taken from other sources without attribution will be considered a violation of the honor code.

Asking for help. We are living through unprecedented times. Many are juggling challenging circumstances outside of class. If you find you are falling behind in class and/or struggling to meet deadlines, reach out to an instructor or teaching assistant so we can figure out a plan to get you back on track. As instructors, our goal is to create a group of learners that can support each other in their efforts to build expertise in climate change and health.

Inclusive Learning Environments

In this class, we will work together to develop a learning community that is inclusive and respectful. Our diversity may be reflected by differences in race, age, sexual orientation, gender identity and expression, religion/spirituality, ability, socioeconomic background, and myriad other social identities and life experiences. In a diverse community, the goal of inclusiveness encourages and appreciates expressions of different ideas, opinions, and beliefs so that conversations and interactions are opportunities for intellectual and personal enrichment.

A dedication to inclusiveness requires respecting what others say, their right to say it, and the thoughtful consideration of others' communication. Both speaking up and listening are valuable tools for furthering thoughtful and enlightening dialogue. Respecting one another's individual differences is critical in transforming a collection of diverse individuals into an inclusive and collaborative learning community. We will hold ourselves and one another accountable, which includes bringing attention to times when microaggressions or macroaggressions happen in a classroom. Our core commitment shapes our core expectations for behavior inside and outside of the classroom. We encourage students to review the ColoradoSPH Equity, Diversity, and Inclusion Common Language and Commitment Statement https://www1.ucdenver.edu/docs/librariesprovider151/default-document-library/edi-commitment-and-terms-5-11-21.pdf?sfvrsn=804479ba_0

Title IX: Non-Discrimination and Sexual Misconduct, Intimate Partner Violence, and Stalking

Non-Discrimination

The ColoradoSPH and [University of Colorado Non-Discrimination Policy](#) prohibits discrimination on the basis of race, color, national origin, sex, age, disability, pregnancy, creed, religion, sexual orientation, veteran status, gender identity, gender expression, political philosophy or political affiliation in admission and access to, and treatment and employment in, its educational programs and activities.

Sexual Misconduct, Intimate Partner Violence, and Stalking

The ColoradoSPH and University of Colorado [Sexual Misconduct, Intimate Partner Violence, and Stalking Policy](#) prohibits conduct including sexual assault, dating violence, domestic violence, Title IX stalking, sexual exploitation, Title IX harassment, hostile environment, Title IX quid pro quo sexual harassment, and quid pro quo sexual harassment.

ColoradoSPH Partner Campus Title IX Offices and Contact Information:

Incidents of discrimination, sexual misconduct, intimate partner violence, and stalking should be reported to the **Title IX office of the university where the incident occurred**. Incidents involving microaggressions or incidents that may not otherwise rise to the level of a policy violation, may also

be reported to the appropriate university Title IX office listed below. Please refer to the CU Anschutz campus Office of Equity website for a self-learning guide about microaggressions.

If you have any questions on clarity related to the reporting of incidents, please contact the **ColoradoSPH Title IX Liaison**, Dr. Danielle (Dani) Brittain, PhD. You can reach Dr. Brittain at Danielle.Brittain@cuanschutz.edu.

CU Anschutz Campus: On the CU Anschutz campus, please contact the Office of Equity. The Office of Equity staff, including the University's Title IX Coordinator, may be reached at (303) 315-2567 or equity@ucdenver.edu.

Academic Conduct Policy

All students are expected to abide the Honor Code of the Colorado School of Public Health. Unless otherwise instructed, all of your work in this course should represent completely independent work. Students are expected to familiarize themselves with the Student Academic Honor and Conduct Code. Any student found to have committed acts of misconduct (including, but not limited to cheating, plagiarism, misconduct of research, breach of confidentiality, or illegal or unlawful acts) will be subject to the procedures outlined in the ColoradoSPH Honor Code.

Accommodations for Disabilities: Virtual and In-Class

The University of Colorado Anschutz Medical Campus is committed to providing equitable access to our programs for students with disabilities (e.g., psychological, attentional, learning, chronic health, sensory, and physical).

To engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom and clinical settings please contact The Office of Disability, Access, and Inclusion at: disabilityaccess@cuanschutz.edu or begin the process via the website. Accommodations are not provided retroactively, therefore, students are encouraged to begin this process early.

Mental Health Services

Please visit the Office of Student Affairs – Student Health Promotion website OR the Department of Psychiatry website for information on mental health services.

COURSE SCHEDULE

Date	Topic	Deadlines
Week 1	Introductions	
Aug 30	Introduction to Climate Change and Health, part 1	
Sept 1	Introduction to Climate Change and Health, part 2	Final project: assignment distributed
Week 2	Climate science	
Sept 6	Climate science, an introduction. Guest lecture by Dr. Kristopher Karnauskas, University of Colorado, Boulder (Class will meet via Zoom)	
Sept 8	Climate science reports	Discussion assignment 1
Week 3	Climate change, heat and vulnerable populations	
Sept 13	Climate change, heat and health. Guest lecture by Dr. Cassandra O'Lenick, National Centers for Atmospheric Research (Class will meet via Zoom)	
Sept 15	Case Study: Climate change and worker health in Latin America	Discussion assignment 2
Week 4	Climate change, air quality and vulnerability assessments	
Sept 20	Climate change and air quality by Dr Colleen Reid, University of Colorado Boulder (Class will meet via Zoom)	
Sept 22	Climate and health vulnerability assessments	Final project: team & topic
Week 5	Building the evidence base	
Sept 27	How do we assess the health impacts of climate change? - Case-study of heat and worker injury. Guest lecture by Miranda Dally, Center for Health, Work and Environment. - Case study of rainfall and diarrhea	
Sept 29	Establishing the connection between climate and health: the epidemiological evidence	Discussion assignment 3
Week 6	Looking into the future	
Oct 4	Climate health projections, part 1. AND Climate change and the hydrological cycle. Guest lecture by Dr. Balaji Rajagopalan, University of Colorado, Boulder	

Date	Topic	Deadlines
Oct 6	Looking into the future: climate & health projections, part 2	Discussion assignment 4
Week 7	Communicating about climate change and health	
Oct 11	Flex day	
Oct 13	Climate Health Op-ed Journal Club	Discussion assignment 5
Week 8	Co-benefits and final project sprint	
Oct 18	Climate change and health communication. Guest lecture by Dr. Jay Lemery, Colorado School of Medicine	
Oct 20	In-class workshop for final project	Final project: one-page summary
Week 9	Climate change, drought and health	
Oct 25	Drought, mental health, direct and indirect consequences – a case study of the San Luis Valley and utilizing community partnerships. Guest lecture by Dr. Kathy James, EHOH, and Francesca Macaluso	
Oct 27	Case study: the health impacts of drought	Discussion assignment 6
Week 10	Intervening to change climate change	
Nov 1	Climate urban mitigation strategies. Guest lecture by Dr. David Rojas, Colorado State University. (Class will meet via Zoom)	
Nov 3	Op-ed Peer-Review Workshop	Discussion assignment 7 (op ed) due Nov 4
Week 11	Climate change and vector-borne diseases	
Nov 8	Climate change, vector-borne diseases and the CDC's role, Dr. C. Ben Beard, Centers for Disease Control and Prevention	
Nov 10	Climate-health co-benefits	Final project: Draft written report. First group- & self-assessment
Week 12	Climate justice and peer-review workshop	
Nov 15	Climate Justice	Discussion assignment 8

Date	Topic	Deadlines
Nov 17	Peer-review workshop	Final project: Peer-review comments
Week 13	Disasters	
Nov 22	Un-natural disasters	Discussion assignment 9
Nov 24	No class – Thanksgiving	
Week 14	Climate Health Policy	
Nov 29	Translating climate science to climate policy. Guest lecture by Anna Stewart Ibarra, Inter-American Institute for Global Change Research (Class will meet via Zoom)	
Dec 1	Activity: summarizing a report in real-time	Final project: Stakeholder report
Week 15	Final project presentations	
Dec 6	Student presentations	
Dec 8	Student presentations	
Dec 15	(no class)	Final project: Final written report. Second group- & self- assessment