

Course Syllabus

 Edit

COURSE SYLLABUS

ENVH 479/579 and GH 420/520: CLIMATE CHANGE & PUBLIC HEALTH PRACTICE

SPRING QUARTER 2024

CONTACT INFORMATION

Instructor: Jeremy Hess, MD, MPH (*he, him, his*), Professor, Emergency Medicine, Environmental and Occupational Health Sciences, and Global Health

Contact: jjhess@uw.edu (<mailto:jjhess@uw.edu>); 206.221.4059; email via course Canvas site

Office hours: Wednesdays, 2-3 PM, Hans Rosling Center (HRC) Room 775 floor, or by appointment


Course times and locations

Class: Mondays and Wednesdays, 3:30-4:50, HSEB 245

LAND ACKNOWLEDGEMENT

The University of Washington acknowledges the Coast Salish people of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Suquamish, Tulalip and Muckleshoot nations.

ILLNESS PROTOCOL

If you feel ill or exhibit respiratory or other symptoms, you should not come to class. Seek medical attention if necessary and notify your instructor(s) as soon as possible by email. Follow the [COVID-19 Public Health Flowchart](https://www.ehs.washington.edu/system/files/resources/COVID-19-public-health-flowchart)  ([https://www.ehs.washington.edu/system/files/resources/COVID-19-public-](https://www.ehs.washington.edu/system/files/resources/COVID-19-public-health-flowchart)

[health-flowchart.pdf](#)) if you have COVID-19 symptoms, exposure or test positive, and adhere to the [UW Face Covering Policy](#) [↗\(https://www.ehs.washington.edu/covid-19-prevention-and-response/face-covering-policy\)](https://www.ehs.washington.edu/covid-19-prevention-and-response/face-covering-policy).

Additional recommendations include getting your [annual flu shot \(https://wellbeing.uw.edu/flu-vaccination/\)](https://wellbeing.uw.edu/flu-vaccination/) and getting boosted with the updated COVID vaccines (available [at clinics and pharmacies, as well as through UW Medicine](#) [↗\(https://www.washington.edu/coronavirus/vaccines/\)](https://www.washington.edu/coronavirus/vaccines/) and local health agencies).

Please check your email and CANVAS announcements daily BEFORE coming to class. If we need to conduct class remotely because the instructor or a guest speaker is unable to attend in person, we will send all registered students an email and/or post a CANVAS announcement with a Zoom link for remote instruction or a plan for making up the class.

COURSE DESCRIPTION

Climate change is impacting population health through a wide range of pathways and presenting novel challenges for public health practitioners. These challenges range widely and include the need to be familiar with climate change health impacts in different contexts; methods for understanding associations between weather, seasonality, climate variability, and climate change; and understanding of how to take an evidence-based approach to climate change-related public health decisions. As many of climate change's most significant health impacts are felt in low- and middle income countries, and there is a significant health equity component to climate and health regardless of setting, it is important for public health practitioners to be ready to address health equity in their practice.

This course will use cases from around the world to explore current and anticipated practice challenges in a wide range of geographies, populations, and settings to develop the practical skills needed to support effective public health engagement. The class is designed to support practice development for both domestic and global health settings. The class will cover material on climate change and health impacts, risk assessment and risk management, public health surveillance, climate and health research, public health administration and financing, early warning systems, community engagement, and scenario-based planning.

Course material will introduce theoretical frameworks for climate resilient health systems and explore how to develop, tailor, and maintain essential public health services to address climate change. Class sessions will be organized around the World Health Organization (WHO) Operational Framework for Building Climate-resilient Health Systems and practice cases from various settings, with frequent interactions with visiting scholars and practitioners. Topics will include evidence-based practice, organizational planning, scenario-based decision support, leadership development, surveillance, disaster preparedness, early warning systems, implementation science, and program evaluation. Through a series of cases, students will learn relevant theories and frameworks, develop skills in assessing health risks associated with a wide range of climate-sensitive hazards, identify potential risk reduction strategies, and explore implementation at scale. Cross-cutting topics and themes including relevant

health metrics, vulnerability assessment, determinants of health, migration, community engagement, equity, the incorporation of climate and weather data into public health activities, policy, and communications will be woven throughout the course.

The class will meet twice weekly and will include a mix of brief lectures, visiting speakers, student-led presentations and discussions, and in-class exercises. Students will develop and practice skills through problem sets focused on elements of the WHO framework. Students will also do a final project, and will have a choice of creating a logic frame for set of public health activities related to climate change and health practice, or developing a set of guidance for public health practitioners that will be used in CHanGE's online climate and health risk tool (CHaRT), which supports public health adaptation to climate change.

The course is open to both upper-level undergraduates and graduate students. Graduate students taking the course will answer additional questions on weekly problem set, will have additional elements to address in their projects, and will also be required to present their projects to the class.

COURSE LEARNING OBJECTIVES

After completing this course, undergraduate and graduate students will be able to:

1. Describe the World Health Organization's (WHO's) Framework for Building Climate Resilient Health Systems and apply the WHO framework to assess a health system's status.
2. Articulate a process for developing qualitative risk estimates associated with climate-sensitive hazards.
3. Search the health literature to identify risk reduction strategies for climate-sensitive health risks, evaluate the efficacy of identified strategies, and develop strategies for their implementation.
4. Describe the role of scenarios in guiding public health planning and decision support related to climate change health impacts.
5. Develop plans for surveillance of climate-sensitive health endpoints and guidance related to characterizing impacts and trends.
6. Describe principles of climate justice and health equity and identify ways in which these principles can be incorporated into climate and health policy and tracked in relevant surveillance activities.
7. Develop (and present, for graduate students) a logic frame describing a climate change and health plan or activity.
8. Apply the WHO framework to a public health system in a given location at a particular point in time to develop a climate change health adaptation plan.

Graduate students completing the course will also be able to:

1. Articulate how quantitative risk assessments can be used in addition to or instead of qualitative risk assessments to develop climate change health adaptation plans.
2. Describe risk reduction metrics and how to use evidence related to risk reduction to prioritize climate change adaptation activities.

3. Synthesize available evidence on climate change health impacts, risk reduction activities, and implementation to provide a detailed blueprint to accompany a climate change health adaptation plan for a particular location.

COUNCIL FOR EDUCATION OF PUBLIC HEALTH (CEPH) COMPETENCIES

- MPH-1.** Apply epidemiological methods to the breadth of settings and situations in public health practice
- MPH-2.** Select quantitative and qualitative data collection methods appropriate for a given public health context
- MPH-4.** Interpret results of data analysis for public health research, policy or practice
- MPH-5.** Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
- MPH-6.** Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels
- MPH-7.** Assess population needs, assets and capacities that affect communities' health
- MPH-8.** Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
- MPH-9.** Design a population-based policy, program, project or intervention
- MPH-11.** Select methods to evaluate public health programs
- MPH-12.** Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
- MPH-13.** Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
- MPH-14.** Advocate for political, social or economic policies and programs that will improve health in diverse populations
- MPH-15.** Evaluate policies for their impact on public health and health equity
- MPH-16.** Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making

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

REQUIRED TEXTBOOKS & READINGS

There are no required textbooks for the class. The class is built around a series of cases that allow for exploration of place-based consideration of climate change health impacts and health system preparedness and response. Primary literature will also be assigned as required and supplemental reading for each case. Case materials will be available on the class's Canvas site. Any required readings for given class session will be available through the class's Canvas site.

Recommended, optional, or supplementary readings

Some classes will have optional readings, also available through Canvas.

GRADING

Grades in the class will be a combination of classroom participation (15%), weekly problem sets (30%), case presentations and discussion facilitation (35%), and final project (20%). Graduate students will have at least one additional question on each problem set to complete. Graduate students will also be required to include additional information in their final projects, and will be required to present their projects to the class.

Grading Criteria

The fundamental goal for this class is for students to become comfortable anticipating and implementing changes in public health practice as the climate shifts. This requires being able to access, digest, synthesize, and present knowledge about climate change and its health impacts; developing skills in assessing how climate change is likely to affect population health and practice needs in a given context; developing recommendations to guide public health practice changes and scaling up of adaptation activities; presenting these recommendations and associated plans to colleagues; and outlining strategies for evaluating the effectiveness of proposed practice changes.

The class is case- and discussion-based, and classroom participation is essential to individual and group learning. Participation will be assessed based on preparedness (e.g., evidence of having read the cases and supporting materials), engagement (e.g., asking questions and participating in class discussions), and participation in classroom activities (e.g., providing thoughtful, constructive feedback on presentations).

Weekly assignments will focus on knowledge acquisition and analysis of available data. Assignments will be graded on completeness, responsiveness to specific questions, and demonstration of application of

core fundamental knowledge.

As available, students will work together to develop case presentations and facilitate case discussions. Case presentations will be assessed based on evidence of engagement with the topic, knowledge of the issues being considered, sufficiency of the breadth of issues discussed, creativity in the approach to the case discussion, clarity of the presentation, and preparedness and management of discussion facilitation.

Students will complete a final project for the class. There will be two options: developing logic frames to describe how specific public health practice activities meant to advance public health preparedness and response to climate change might be pursued, or developing guidance related to reducing health risks associated with extreme heat. Final projects will be assessed based on their completeness, clarity, and fulfillment of the assignment components. Graduate students will be required to include additional information in their projects, to be outlined in class. Graduate students will also present their final projects to the class. Presentations will be part of the project grade (5% of the 20%) for these students. Presentations of the final projects will be graded based on clarity and audience feedback.

Additional information and specific grading rubrics will be presented with the assignments via Canvas.

Late assignment policy

If you need an extension on an assignment please communicate this in advance with the instructor. In the case of advance notice, there will be a 48-hour grace period for all assignments submitted. After the 48 hours, total possible points for any graded assignment will be reduced by 10% for each day late. If a student does not ask for an extension in advance, grades will be reduced by 10% for each day late without a 48-hour grace period.

Student responsibilities

Students will learn best if they read material in advance of class, regularly complete their homework assignments on time, and actively participate during presentations and classroom discussions. In general, students who actively participate will do better in this class, both in terms of achieving the learning goals and in terms of their final grade. Given the interactive nature, we expect students to attend class unless circumstances prevent it, and we expect that students will contribute equally to group activities while also allowing others to contribute. We also expect students present only their own work as theirs, and properly cite all intellectual content of others. We are confident all students who come prepared to class and engage with each other and the course material will be successful at achieving the course learning objectives.


COURSE SESSION SCHEDULE

Date	Topic	Instructor	Required Reading
3/25	Welcome, overview, climate change and public health practice	JJH	None
3/27	WHO Framework, Component 1 - Leadership & Governance	JJH	WHO FW pp 1-15, other reading as assigned
4/1	Component 2 - Workforce Development	JJH	WHO FF pp 16-18, other reading as assigned
4/3	Washington Case Discussion	JJH	Washington Materials
4/8	Component 3 - Vulnerability & Adaptation Assessment	KLE	WHO FW pp 19-20
4/10	Component 4 - Early Warning Systems	CJB	WHO FW pp 21-22
4/15	Bangladesh Case Discussion	JJH	Bangladesh Materials
4/17	Component 5 - Health and Climate Research	JJH	WHO FW pp 23-34
4/22	Component 6 - Climate-resilient Technologies and Infrastructure	JJH	WHO FW pp 25-26
4/24	Components 7 & 8 - Environmental Determinants of Health, Climate-informed Programs	JJH	WHO FW pp 27-31
4/29	Arctic Case Discussions	Students	TBD
5/1	Indonesia & Philippines Cases	TBD	TBD

Date	Topic	Instructor	Required Reading
5/6	Component 9 - Emergency Preparedness and Management	CJB, RP	WHO FW pp 32-33
5/8	Sub-Saharan Africa Cases	TBD	TBD
5/13	Component 10 - Climate & Health Financing	JJH	WHO FW pp 34-35
5/15	Australia & Brazil Cases	TBD	TBD
5/20	Health Ministries and Pandemic Preparedness Cases	TBD	TBD
5/22	Presentations	TBD	See Canvas site
5/29	Presentations, wrap-up	TBD	See Canvas site

SUPPLEMENTARY COURSE MATERIALS

Communication and Writing Skills

Communication through writing and speaking is an important transferable skill for all career pathways. Establishing a strong foundation in communication skills will help you be successful throughout your future course work and career. Therefore, this course includes assignments with the goal to help you identify areas of strength and improvement in your communication. If you feel that you could benefit from additional opportunities to improve your writing skills in particular, a list of resources at the UW and others accessible online can be found on the SPH website [here](#) .

<https://sph.washington.edu/sites/default/files/2020-09/Writing-Resources-9.24.20.pdf>.

IMPORTANT POLICIES & RESOURCES

Academic Integrity

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.

The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating,

and other misconduct are serious violations of the University of Washington [Student Conduct Code \(WAC 478-121\)](#) [↗](https://apps.leg.wa.gov/WAC/default.aspx?cite=478-121) (<https://apps.leg.wa.gov/WAC/default.aspx?cite=478-121>). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy](#) [↗](https://sph.washington.edu/students/academic-integrity-policy) (<https://sph.washington.edu/students/academic-integrity-policy>). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington [Community Standards and Student Conduct](#) [↗](https://www.washington.edu/cssc/) (<https://www.washington.edu/cssc/>).

Use of Generative Artificial Intelligence in Coursework

Artificial Intelligence (AI) content generators, such as ChatGPT, present opportunities that can contribute to your learning and academic work. However, using these technologies may also violate academic standards of the University. Under the Student Conduct Code, cheating includes the unauthorized use of assistance, including technology, in completing assignments or exams.

Unless otherwise specified, you are permitted to use AI tools to assist you in gathering information, writing drafts, and revising your writing and in generating images. However, you are expected to include a disclosure statement at the end of your assignment describing which AI tool you used and how you used it. For example, "AI tools were used to draft about 50 percent of this paper and to provide revision assistance. AI-produced content was edited for accuracy and style."

Access and Accommodations

Your experience in this class is important to me. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you have already established accommodations with Disability Resources for Students (DRS), please activate your accommodations via myDRS so we can discuss how they will be implemented in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), contact DRS directly to set up an Access Plan. DRS facilitates the interactive process that establishes reasonable accommodations. Contact DRS at [disability.uw.edu](https://depts.washington.edu/uwdrs/) [↗](https://depts.washington.edu/uwdrs/) (<https://depts.washington.edu/uwdrs/>).

Religious Accommodations

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](#) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>) [↗](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using

the [Religious Accommodations Request form](https://registrar.washington.edu/students/religious-accommodations-request/)

(<https://registrar.washington.edu/students/religious-accommodations-request/>) 

(<https://registrar.washington.edu/students/religious-accommodations-request/>).

Inclusion & Diversity

Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of University education. In SPH, we are expected:

1. To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender, immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status and veteran status.
2. To engage respectfully in the discussion of diverse worldviews and ideologies embedded in course readings, presentations and artifacts, including those course materials that are at odds with personal beliefs and values.
3. To encourage students with concerns about classroom climate to talk to their instructor, adviser, a member of the departmental or SPH EDI Committee, the Assistant Dean for EDI, or the program's director.

Classroom Climate

We are co-creators of our learning environment. It is our collective responsibility to develop a supportive learning environment for everyone. Listening with respect and an open mind, striving to understand others' views, and articulating your own point of view will help foster the creation of this environment. We engage our differences with the intent to build community, not to put down the other and distance our self from the other. Being mindful to not monopolize discussion and/or interrupt others will also help foster a dialogic environment.

The following guidelines can add to the richness of our discussion:

- We assume that persons are always doing the best that they can, including the persons in this learning environment.
- We acknowledge that systematic oppression exists based on privileged positions and specific to race, gender, class, religion, sexual orientation, and other social variables and identities.
- We posit that assigning blame to persons in socially marginal positions is counter-productive to our practice. We can learn much about the dominant culture by looking at how it constructs the lives of those on its social margins.
- While we may question or take issue with another class member's ideology, we will not demean, devalue, or attempt to humiliate another person based on her/his experiences, value system, or construction of meaning.
- We have a professional obligation to actively challenge myths and stereotypes about our own groups and other groups so we can break down the walls that prohibit group cooperation and growth.

[Adapted from Lynn Weber Cannon (1990). Fostering positive race, class and gender dynamics in the classroom. *Women Studies Quarterly*, 1 & 2, 126-134.]

We are a learning community. As such, we are expected to engage with difference. Part of functioning as a learning community is to engage in dialogue in respectful ways that supports learning for all of us and that holds us accountable to each other. Our learning community asks us to trust and take risks in being vulnerable.

Here are some guidelines that we try to use in our learning process:

- LISTEN WELL and be present to each member of our group and class.
- Assume that I might miss things others see and see things others miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Extend the same listening to others I would wish them to extend to me.
- Surface my feelings in such a way that I make it easier for others to surface theirs.
- Regard my views as a perspective onto the world, not the world itself.
- Beware of either-or thinking.
- Beware of my assumptions of others and their motivations.
- Test my assumptions about how and why people say or do things.
- Be authentic in my engagement with all members of our class.

Pronouns

We share our pronouns because we strive to cultivate an inclusive environment where people of all genders feel safe and respected. We cannot assume we know someone's gender just by looking at them. So we invite everyone to share their pronouns.






Bias Concerns

The Office of the Dean has a [student concern policy](https://sph.washington.edu/students/student-concern-policy), a faculty concern policy and standard HR procedures for staff concerns. Our 2018 climate survey states that most people in SPH do not report bias incidents because they do not know where to go. Students are encouraged to report any incidents of bias to someone they feel comfortable with, including instructors, advisers or department staff. They can email dcinfo@uw.edu for immediate follow up. Bias concerns can be anonymously and confidentially reported via the online form found here: <https://sph.washington.edu/about/diversity/bias-concerns>. Data is collected by the Assistant Dean for EDI and the Director of Program Operations for Student and Academic Services and tracked for resolution and areas are identified for further training.

Sexual Harassment

Sexual harassment is a form of harassment based on the recipient's sex that is characterized by:

1. Unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature by a person who has authority over the recipient when:
 - o Submission to such conduct is an implicit or explicit condition of the individual's employment, academic status, or ability to use University facilities and services, or
 - o Submission to or rejection of the conduct affects tangible aspects of the individual's employment, academic status, or use of University facilities.
2. Unwelcome and unsolicited language or conduct that creates an intimidating, hostile, or offensive working or learning environment, or has the purpose or effect of unreasonably interfering with an individual's academic or work performance.

If you believe that you are being harassed, or have observed harassment, you can report it to SPH using the [bias concerns link](https://sph.washington.edu/about/diversity/bias-concerns)  (<https://sph.washington.edu/about/diversity/bias-concerns>). The University also has designated offices to help you: [SafeCampus](https://www.washington.edu/safecampus/)  (<https://www.washington.edu/safecampus/>); [Office of the Ombud](https://www.washington.edu/ombud/)  (<https://www.washington.edu/ombud/>); [Title IX Investigation Office](https://www.washington.edu/titleix/report/)  (<https://www.washington.edu/titleix/report/>); and [University Complaint Investigation and Resolution Office](https://www.washington.edu/compliance/uciro/)  (<https://www.washington.edu/compliance/uciro/>).