

ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease

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W ENVIRONMENTAL & OCCUPATIONAL HEALTH SCIENCES UNIVERSITY of WASHINGTON | SCHOOL OF PUBLIC HEALTH

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ENV H 447/547: Environmental Change and Infectious Disease

Quarter: Spring 2021

Credits & Grading: 3 credits, graded

Time: Tuesdays & Thursdays, 10:00 to 11:20 AM

Taught Remotely via Zoom: [Join Zoom Meeting](#)

<https://washington.zoom.us/j/94126340744>  [_ \(https://washington.zoom.us/j/94126340744\)](https://washington.zoom.us/j/94126340744)

 [_ \(https://washington.zoom.us/j/94126340744\)](https://washington.zoom.us/j/94126340744) Meeting ID: 941 2634 0744

Instructor & TA:



Jerry Cangelosi, Professor

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[_ \(mailto:tmb@uw.edu\)](mailto:tmb@uw.edu) **Office Hours:** By appointment

Pronouns: he/his



Renée Codsí, Teaching Assistant

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[_ \(mailto:tmb@uw.edu\)](mailto:tmb@uw.edu) **Office Hours:** By appointment

Pronouns: she/her

Course Description

A multidisciplinary approach is used to address the impacts of environmental change (including climate change) on infectious disease. Concepts include categories of environmental change; infectious disease emergence/re-emergence; environmental aspects of infectious disease exposure, acquisition, and progression; pathogen growth/survival in the environment; historical and societal perspectives; surveillance; and strategies for control.

Learning objectives: At the end of the course, the student will be able to:

- Define and describe infectious disease emergence and re-emergence.
- Describe how environmental change can change the incidence, prevalence, geographical distribution, and/or severity of infectious diseases.
- Compare the different ways that climate change can impact infectious diseases, and identify the factors that are likely to have the greatest impacts.
- Identify and interpret reliable sources of information on environmental change, climate change, and infectious disease.
- Recognize the interface between human and animal health in the contexts of environmental change and infectious disease.
- Recognize the impact of climate change on agriculture and nutrition, and describe the importance of these factors to infectious diseases in humans.
- Evaluate and discuss strategies for detecting and combating emerging and re-emerging infectious diseases, including surveillance, prevention, case detection, and treatment.
- Recognize and discuss controversial issues related to the interplay between environmental change and infectious disease.

Format: Pre-recorded lectures (20-30 min) by the instructors and guest lecturers, followed by in-class discussions, often in breakout groups.

Office hours: The final 20-30 minutes of each 80 minute class session are set aside for office hours. Attendance of this portion is optional.

Website: Links to recorded lectures, lecture presentations, reading lists, assignments, and announcements, including due dates, will be posted and updated on the course website. Students are responsible for checking for changes to schedule or assignments.

Readings: No textbooks. Required reading and recommended resources, mostly from the scientific literature, posted on web site. Students expected to read required materials prior to class.

Video introduction: Each student is required to submit a 1-2-minute long introduction video. The video should indicate the students name, what they like to be called, preferred pronouns, what degree program they are in, and what they hope to get out of the class. Students who do not have the capacity to record a video (though most should on their phones) may submit a 1 page-long statement describing the same information. Videos/Statements will be due by the beginning of the third class period. (5 pts).

Class participation: Students are expected to speak up, ask questions, share insights, and participate in break-out groups. Students who are unable to attend class during the scheduled sessions should recorded class sessions, and contribute by posting to the discussion board (10 pts).

Quizzes: Four multiple choice and T/F quizzes offered every 2nd Thursday in the first 8 weeks of the course. Open books, open notes, 2 hours to complete.

Panel discussions: Near the end of the Quarter, 447 students in teams of 4 will "debate" controversial issues related to environmental change and infectious disease. 547 students will serve as moderators.

Final research paper: Topic related to the class must be approved by the instructor.

- Paper must be 2-3 pages (not including references), double-spaced, and must include ≥ 10 primary references. 547 students prepare an additional ≤ 1 -page (single spaced) lay-language "memo" for policy makers.

How do Env H 447 and Env H 547 differ? The graduate course (547) differs from the undergraduate course (447) in the following ways:

- 547 students will present "science behind the story" assignments mid-term.
- 547 students will serve as moderators of the Panel Discussions.
- 547 students have an added task in their research paper: A half-page Executive Summary in lay language, designed for policy makers and members of the public.

Grading: Course grades will be based on the following for 447 students:

- | | |
|------------------------|-----|
| • Video introduction | 5% |
| • Panel discussion | 20% |
| • Quizzes | 45% |
| • Final research paper | 20% |
| • class participation | 10% |

Grading: Course grades will be based on the following for 547 students:

- | | |
|---|-----|
| • Video introduction | 5% |
| • "Science behind the story" assignment | 10% |
| • Panel discussion | 5% |
| • Quizzes | 45% |
| • Final research paper | 25% |
| • class participation | 10% |

GRADING: Numerical grades will typically be distributed according to the following scale:

%	GP	%	GP	%	GP
96%	4	86%	3	76%	2

95%	3.9	85%	2.9	75%	1.9
94%	3.8	84%	2.8	74%	1.8
93%	3.7	83%	2.7	73%	1.7
92%	3.6	82%	2.6	72%	1.6
91%	3.5	81%	2.5	71%	1.5
90%	3.4	80%	2.4	70%	1.4
89%	3.3	79%	2.3	69%	1.3
88%	3.2	78%	2.2	68%	1.2
87%	3.1	77%	2.1	67%	1.1
		66%	1		

Land Acknowledgment: Washington State is [home \(https://www.washingtontribes.org/tribes-map\)](https://www.washingtontribes.org/tribes-map) to 29 federally recognized and five unrecognized tribes. Including a statement like the one written below demonstrates our collective humility and respect for the original caretakers of the land that the School of Public Health sits on. We encourage instructors to ask students find out who the original settlers of the land they are on to encourage deeper understanding and solidarity with indigenous people. The statement below is an example of this statement:

"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."

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 478-120). 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 website.

Statement on Inclusion and 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 identity and expression, citizenship and 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.*

On our first day of class we will create ground rules together to follow in promoting a productive learning environment for all members of the class. I am committed to making this class an equitable learning environment. Please talk with me right away if you experience disrespect in this class from other students and/or from me, and I will work to address it in an educational manner.

Statement on 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.

Access and Accommodations:

Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs 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 are not limited to mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu \(mailto:uwdrs@uw.edu\)](mailto:uwdrs@uw.edu) or [disability.uw.edu. \(http://depts.washington.edu/uwdrs/\)](http://depts.washington.edu/uwdrs/) DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

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-](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy)

[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/>).

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.

Disclaimer: Insofar as possible, the course will adhere to the plan above and the speakers and topics listed in the class schedule. If there are any changes, the TA or instructors will communicate them to the students as soon as possible.

Course Summary:

Date	Details	Due
Tue Mar 30, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008797&include_contexts=course_1449281	10am to 11:45am
	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954247&include_contexts=course_1449281	10am to 11:30am
Thu Apr 1, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008798&include_contexts=course_1449281	10am to 11:45am
	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954248&include_contexts=course_1449281	10am to 11:30am
Tue Apr 6, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008799&include_contexts=course_1449281	10am to 11:45am

Date	Details	Due
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954249&include_contexts=course_1449281)	10am to 11:30am
	 Video Introduction (https://canvas.uw.edu/courses/1449281/assignments/6199255)	due by 10am
Thu Apr 8, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008800&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954250&include_contexts=course_1449281)	10am to 11:30am
Fri Apr 9, 2021	 Quiz 1 (https://canvas.uw.edu/courses/1449281/assignments/6109167)	due by 11:59pm
Sat Apr 10, 2021	 Quiz 1 (https://canvas.uw.edu/courses/1449281/assignments/6109167) (7 students)	due by 11:59pm
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008801&include_contexts=course_1449281)	10am to 11:45am
Tue Apr 13, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954251&include_contexts=course_1449281)	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008802&include_contexts=course_1449281)	10am to 11:45am
Thu Apr 15, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954245&include_contexts=course_1449281)	10am to 11:30am

Date	Details	Due
Tue Apr 20, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008803&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954246&include_contexts=course_1449281)	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008804&include_contexts=course_1449281)	10am to 11:45am
Thu Apr 22, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954252&include_contexts=course_1449281)	10am to 11:30am
	 Science Behind the Story_(547 students only) (https://canvas.uw.edu/courses/1449281/assignments/6280785)	due by 11:59pm
Fri Apr 23, 2021	 Quiz 2 (https://canvas.uw.edu/courses/1449281/assignments/6109168)	due by 11:59pm
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008805&include_contexts=course_1449281)	10am to 11:45am
Tue Apr 27, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954253&include_contexts=course_1449281)	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008806&include_contexts=course_1449281)	10am to 11:45am

Date	Details	Due
	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954254&include_contexts=course_1449281	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008807&include_contexts=course_1449281	10am to 11:45am
Tue May 4, 2021	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954255&include_contexts=course_1449281	10am to 11:30am
	 Submit your panel discussion topic preference by 5pm on Tues May 4th. https://canvas.uw.edu/courses/1449281/assignments/6305364	due by 11:59pm
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008808&include_contexts=course_1449281	10am to 11:45am
Thu May 6, 2021	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954256&include_contexts=course_1449281	10am to 11:30am
Fri May 7, 2021	 Quiz 3 https://canvas.uw.edu/courses/1449281/assignments/6199223	due by 11:59pm
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease https://canvas.uw.edu/calendar?event_id=2008809&include_contexts=course_1449281	10am to 11:45am
Tue May 11, 2021	 ENV H 447/547 https://canvas.uw.edu/calendar?event_id=1954257&include_contexts=course_1449281	10am to 11:30am

Date	Details	Due
Thu May 13, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008810&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954258&include_contexts=course_1449281)	10am to 11:30am
Tue May 18, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008811&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954259&include_contexts=course_1449281)	10am to 11:30am
Thu May 20, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008812&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954260&include_contexts=course_1449281)	10am to 11:30am
Fri May 21, 2021	 Quiz 4 (https://canvas.uw.edu/courses/1449281/assignments/6199249)	due by 11:59pm
Tue May 25, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008813&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954261&include_contexts=course_1449281)	10am to 11:30am

Date	Details	Due
Thu May 27, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008814&include_contexts=course_1449281)	10am to 11:45am
	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954262&include_contexts=course_1449281)	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008815&include_contexts=course_1449281)	10am to 11:45am
Tue Jun 1, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954263&include_contexts=course_1449281)	10am to 11:30am
	 Panel discussion Topic Choice assignment (https://canvas.uw.edu/courses/1449281/assignments/6109177)	due by 10am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008816&include_contexts=course_1449281)	10am to 11:45am
Thu Jun 3, 2021	 ENV H 447/547 (https://canvas.uw.edu/calendar?event_id=1954264&include_contexts=course_1449281)	10am to 11:30am
	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008817&include_contexts=course_1449281)	10am to 11:45am
Tue Jun 8, 2021	 ENV H 447/547 A Sp 21: Environmental Change And Infectious Disease (https://canvas.uw.edu/calendar?event_id=2008818&include_contexts=course_1449281)	10am to 11:45am
Thu Jun 10, 2021		

Date	Details	Due
	 Class participation (https://canvas.uw.edu/courses/1449281/assignments/6109174)	
	 Final written paper (https://canvas.uw.edu/courses/1449281/assignments/6109176)	
	 Quiz 2 (https://canvas.uw.edu/courses/1449281/assignments/6109172)	