Course Syllabus

Jump to Today

ENV H 451/551

Environmental & Occupational Health Microbiology I:

Ecology of Environmentally Transmitted Microbial Hazards

Winter Quarter 2024

Monday, Wednesday, and Friday, 10:30-11:20

SOCC 303

INSTRUCTOR: John Scott Meschke (He/His)

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TA: Sammi Cheung (She/Her) (scheung7@uw.edu (mailto:scheung7@uw.edu))

OFFICE HOURS: By appointment

COURSE WEBSITE:

https://canvas.uw.edu/courses/1696487 (https://canvas.uw.edu/courses/1696487)

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: Winter quarter is a time of increased risk of acquiring respiratory illnesses including COVID, RSV, cold, and flu.

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. **UW Environmental Health & Safety (https://www.ehs.washington.edu/covid-19-prevention-and-response/face-covering-policy)** recommends that you wear a well fitting mask while you are symptomatic

Additional recommendations include getting your **annual flu shot (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/)** 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: This course will review environmentally transmitted pathogens with respect to their sources and occurrence, mobility, and fate in the environment. This course will be of use for public health and health care professionals, microbiologists, civil and environmental engineers, environmental scientists and bio-defense specialists.

COURSE OBJECTIVES: On completion of this course, students should be able to:

1. Recognize and describe the major classes of environmentally transmitted pathogens and other microbiological hazards;
2. Distinguish infectious disease epidemiology from other types of epidemiology;
3. Recognize and assess exposure pathways and routes of transmission;
4. Outline and distinguish the factors affecting the persistence, fate and mobility of microbial hazards in environmental media; and
5. Summarize and discuss relevant research articles on environmental transmission of microbiological hazards.

In addition, graduate students should be able to:

1. Identify and define factors in an exposure scenario that may affect risk from microbiological hazards.
2. Critically review and interpret the scientific and gray literature on microbiological hazards; and
3. Effectively communicate (in oral and written manner) their knowledge of environmental transmission of microbiological hazards.

TEXTS AND REFERENCES: There is no required text for this class. Readings and course materials will be available through Canvas. The following texts are recommended references for more in-depth detail on course topics:

Books-

Manual of Environmental Microbiology 4th edition (ed. Yates et al., ASM Press) Disinfection, Sterilization and Preservation, 5th edition, LWW

Metcalf and Eddy's Wastewater Engineering: Treatment and Reuse, McGraw-Hill

Water Quality and Treatment, 5th edition, AWWA Bioaerosols Handbook, Lewis

Food Microbiology, Doyle

Any Basic Microbiology Text (e.g. Madigan, Martinko and Parker; Prescott, Harley and

Klein; etc.)

Journals-

Journal of Applied Microbiology

Letters in Applied Microbiology

Applied and Environmental Microbiology Journal of American Water Works Association Journal of Food Protection

International Journal of Food Microbiology

Water Science and Technology

Water Research

Emerging Infectious Disease

COURSE FORMAT: The course will be organized in 6 modules. Much of the didactic lecture material will be available asynchronously online. However, course will meet in person for in class group discussions and learning activities.

GRADING OPPORTUNITIES:

For the sake of this class, letter and numerical grades will typically be distributed according to the university grading scale between the following standards:

A(4.0)= Excellent and exceptional work (typically >95% of available points)

D (1.0) = Deficient work (typically <66% of available points)

It is expected that most students will perform at a level of ~3.5.

Undergraduate Students

Points will be available according to the following percentage breakdown:

Introduction Video (5%): 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, what degree program they are in, any experience they have that is relevant to the class, and what they hope to get out of the class. Students that do not have the capacity to record a video (though most should on their phones) may submit a 1-2 page long statement describing the same information. Videos/Statements will be due by the beginning of the third class period.

Quizzes (14%): Students will have the opportunity to complete 7 quizzes. Quizzes will be due at 5 pm on the day indicated in the course outline. Late quizzes may be penalized 10% of point value for each class period that they are late.

Midterm Exam (20%): Midterm exam will consist primarily of short answer questions, but may include multiple choice and fill-in the blank questions as well. Exams will be conducted online. Exam will be open book and open note. Early or make-up exams will only be offered in case of emergencies or prior arrangement with instructor. Formats for early and make-up exams are left to the discretion of instructor.

Group Discussions (20%): Students may earn points by participating in group discussions.

In the News (6%): Student may earn points by providing 3 “In the News” articles and contributing to group discussion on the topic.

Pathogen Profile (10%): Students will have the opportunity to complete a pathogen profile for their “pet bug”. These will be a PowerPoint poster following a provided rubric describing the transmission of their chosen organism by environmental routes.

Questions for Graduate Panel (5%): Undergraduate students will have the opportunity to earn 5% of their grade by formulating and submitting questions for each graduate student in the graduate student panels based on the graduate students’ pathogen profile videos.

Final Exam (20%): Final Exam will be offered on **ONLINE during finals week**. Final exam will be comprehensive and will consist of short answer multiple choice, true/false-explain, and problem-solving questions. Exam will be open book and open note.

Graduate Students

Points will be available according to the following percentage breakdown:

Introduction Video (5%): 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, what degree program they are in, any experience they have that is relevant to the class, and what they hope to get out of the class. Students that do not have the capacity to record a video (though most should on their phones) may submit a 1-2 page long statement describing the same information. Videos/Statements will be due by the beginning of the third class period.

Quizzes (20%): Students will have the opportunity to complete 7 quizzes. Quizzes will be due at 5 pm on the day indicated in the course outline. Late quizzes may be penalized 10% of point value for each class period that they are late.

Midterm Exam (20%): Midterm exam will consist primarily of short answer questions, but may include multiple choice and fill-in the blank questions as well. Exams will be conducted online. Exam will be open book and open note. Early or make-up exams will only be offered in case of emergencies or prior arrangement with instructor. Formats for early and make-up exams are left to the discretion of instructor.

Group Discussions (15%): Students may earn points by participating in group discussions.

Pathogen Profile (20%): Students have the opportunity to complete a pathogen profile for their “pet bug” and report it to the class. These will be a 10 minute video presentation addressing points in the pathogen profile rubric, and participation in a graduate student panel to answer questions posed by undergraduates.

Final Exam (20%): Final Exam will be offered **ONLINE during finals week**. Final exam will be comprehensive and will consist of short answer and problem-solving questions. Exam will be open book and open note.

Course Schedule

Important Policies & Resources

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)** .

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, unauthorized use of artificial intelligence (AI) tools, 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)** . We expect you to know and follow the university's policies on cheating and plagiarism, and the SPH 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/)** .

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.

In this course, the use of AI is not encouraged. However, students may use AI tools to assist with group discussion assignments, and their pathogen profile assignment if needed. If using AI tools on any allowed assignment, student must also submit:

1) Use track changes to demonstrate how much of the written product was written by generative AI, and how much was written by you.

2) Maintain a history within the AI tool of your prompts, inputs, and outputs (for example the chat history in ChatGPT).

3) Provide a written statement including the following.

1. Describe how you used generative AI in the assignment or project.
2. Describe how you verified outputs were correct or true.

Use of AI on quizzes/exams, or in any manner inconsistent with this policy is expressly forbidden and such use will be treated as a violation of the student conduct code and may result in a failing grade or a request to resubmit.

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/)** .

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/)** . 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/)** .

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 (mailto: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 (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:
   - 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
   - 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) . The University also has designated offices to help you: **SafeCampus** (https://www.washington.edu/safecampus/) ; **Office of the Ombud** (https://www.washington.edu/ombud/) ; **Title IX Investigation Office** (https://www.washington.edu/titleix/report/) ; and **University Complaint Investigation and Resolution Office** (https://www.washington.edu/compliance/uciro/) .

Course Summary:

Date	Details	Due
Fri Oct 11, 2019	**Prep for Discussion: Emerging Infectious Diseases** (https://canvas.uw.edu/courses/1696487/assignments/8897991)	due by 12:30pm
Fri Oct 2, 2020	**ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards** (https://canvas.uw.edu/calendar?event_id=3433668&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 5, 2020	**ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards** (https://canvas.uw.edu/calendar?event_id=3433671&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 7, 2020	**ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards** (https://canvas.uw.edu/calendar?event_id=3433672&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 9, 2020	**ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards** (https://canvas.uw.edu/calendar?event_id=3433673&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 12, 2020	**ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards** (https://canvas.uw.edu/calendar?event_id=3433680&include_contexts=course_1696487)	12:30pm to 1:30pm

Date	Details	Due
Wed Oct 14, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433665&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 16, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433677&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 19, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433662&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 21, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433681&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 23, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433675&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 26, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433676&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 28, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433679&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 30, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards	12:30pm to 1:30pm

Date	Details	Due
	(https://canvas.uw.edu/calendar?event_id=3433682&include_contexts=course_1696487)	
Mon Nov 2, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433666&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 4, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433684&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 6, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433690&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 9, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433685&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 11, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433691&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 13, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433686&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 16, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433687&include_contexts=course_1696487)	12:30pm to 1:30pm

Date	Details	Due
Wed Nov 18, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433688&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 20, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433670&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 23, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433664&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 25, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433669&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 27, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433683&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 30, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433663&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Dec 2, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433674&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Dec 4, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards	12:30pm to 1:30pm

Date	Details	Due
	(https://canvas.uw.edu/calendar?event_id=3433678&include_contexts=course_1696487)	
Mon Dec 7, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433692&include_contexts=course_1696487)	12:30pm to 1:30pm
	Questions for Graduate Panel (https://canvas.uw.edu/courses/1696487/assignments/8897992)	due by 11:59pm
Wed Dec 9, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433689&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Dec 11, 2020	ENV H 451 A Au 20: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433667&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Sep 29, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433693&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 1, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433694&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 4, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433695&include_contexts=course_1696487)	12:30pm to 1:30pm

Date	Details	Due
Wed Oct 6, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433696&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 8, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433697&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 11, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433698&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 13, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433699&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 15, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433708&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 18, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433709&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 20, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards	12:30pm to 1:30pm

Date	Details	Due
	(https://canvas.uw.edu/calendar?event_id=3433710&include_contexts=course_1696487)	
	October 20 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897987)	due by 12:30pm
Fri Oct 22, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433700&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Oct 25, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433701&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Oct 27, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433702&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Oct 29, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433714&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 1, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433713&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 3, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards	12:30pm to 1:30pm

Date	Details	Due
	(https://canvas.uw.edu/calendar?event_id=3433715&include_contexts=course_1696487)	
Fri Nov 5, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433719&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 8, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433712&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 10, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433724&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 12, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433716&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 15, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433703&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 17, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433706&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 19, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally	12:30pm to 1:30pm

Date	Details	Due
	Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433707&include_contexts=course_1696487)	
Mon Nov 22, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433717&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Nov 24, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433704&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Nov 26, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433725&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Nov 29, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433705&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Dec 1, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433718&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Dec 3, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433711&include_contexts=course_1696487)	12:30pm to 1:30pm

Date	Details	Due
Mon Dec 6, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433720&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Dec 8, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433726&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Dec 10, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433727&include_contexts=course_1696487)	12:30pm to 1:30pm
Mon Dec 13, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433721&include_contexts=course_1696487)	12:30pm to 1:30pm
Wed Dec 15, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433722&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Dec 17, 2021	ENV H 451/541 A Au 21: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3433723&include_contexts=course_1696487)	12:30pm to 1:30pm
Fri Feb 24, 2023	February 24th Discussion - Famous Foodborne Outbreaks (https://canvas.uw.edu/courses/1696487/assignments/8897953)	due by 11:59pm

Date	Details	Due
Wed Jan 3, 2024	January 3 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897978)	due by 10:30am
Fri Jan 5, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473646&include_contexts=course_1696487)	10:30am to 11:30am
	January 5 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897979)	due by 10:30am
Mon Jan 8, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473647&include_contexts=course_1696487)	10:30am to 11:30am
	In The News 1 (https://canvas.uw.edu/courses/1696487/assignments/8897960)	due by 10:30am
	Introduction Video (https://canvas.uw.edu/courses/1696487/assignments/8897969)	due by 10:30am
	January 8 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897980)	due by 10:30am
Wed Jan 10, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473648&include_contexts=course_1696487)	10:30am to 11:30am
	Jan 10 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897970)	due by 10:30am
Fri Jan 12, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473649&include_contexts=course_1696487)	10:30am to 11:30am
	Jan 12 Prep	due by 10:30am

Date	Details	Due
	(https://canvas.uw.edu/courses/1696487/assignments/8897971)	
Sun Jan 14, 2024	Quiz 1 (https://canvas.uw.edu/courses/1696487/assignments/8897943)	due by 11:59pm
Mon Jan 15, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473650&include_contexts=course_1696487)	10:30am to 11:30am
	In The News 2 (https://canvas.uw.edu/courses/1696487/assignments/8897961)	due by 11:59pm
Wed Jan 17, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473651&include_contexts=course_1696487)	10:30am to 11:30am
	January 17 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897974)	due by 10:30am
Fri Jan 19, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473652&include_contexts=course_1696487)	10:30am to 11:30am
	January 19 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897976)	due by 10:30am
Sun Jan 21, 2024	Quiz 2 (https://canvas.uw.edu/courses/1696487/assignments/8897941)	due by 11:59pm
Mon Jan 22, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473653&include_contexts=course_1696487)	10:30am to 11:30am
	January 22 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897975)	due by 10:30am

Date	Details	Due
Wed Jan 24, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473654&include_contexts=course_1696487)	10:30am to 11:30am
	Jan 24 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897972)	due by 10:30am
Fri Jan 26, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473655&include_contexts=course_1696487)	10:30am to 11:30am
	January 26 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897977)	due by 10:30am
	Submit Pet Bug Choices (https://canvas.uw.edu/courses/1696487/assignments/8897993)	due by 11:59pm
Sun Jan 28, 2024	Quiz 3 (https://canvas.uw.edu/courses/1696487/assignments/8897939)	due by 11:59pm
Mon Jan 29, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473656&include_contexts=course_1696487)	10:30am to 11:30am
	January 29 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897973)	due by 10:30am
	In The News 3 (https://canvas.uw.edu/courses/1696487/assignments/8897962)	due by 11:59pm
Wed Jan 31, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473657&include_contexts=course_1696487)	10:30am to 11:30am
	January 31 Prep	due by 10:30am

Date	Details	Due
	(https://canvas.uw.edu/courses/1696487/assignments/8897949)	
Fri Feb 2, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473658&include_contexts=course_1696487)	10:30am to 11:30am
	February 2 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897956)	due by 11:59pm
Sun Feb 4, 2024	Quiz 4 (https://canvas.uw.edu/courses/1696487/assignments/8897938)	due by 11:59pm
Mon Feb 5, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473659&include_contexts=course_1696487)	10:30am to 11:30am
	February 5 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897957)	due by 10:30am
Wed Feb 7, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473660&include_contexts=course_1696487)	10:30am to 11:30am
	February 7 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897958)	due by 10:30am
Fri Feb 9, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473661&include_contexts=course_1696487)	10:30am to 11:30am
	February 9 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897950)	due by 10:30am
	Midterm Exam (https://canvas.uw.edu/courses/1696487/assignments/8897945)	due by 11:59pm

Date	Details	Due
Mon Feb 12, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473662&include_contexts=course_1696487)	10:30am to 11:30am
	Feb 12 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897947)	due by 10:30am
	In The News 4 (https://canvas.uw.edu/courses/1696487/assignments/8897963)	due by 11:59pm
	In The News 6 (https://canvas.uw.edu/courses/1696487/assignments/8897965)	due by 11:59pm
Wed Feb 14, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473663&include_contexts=course_1696487)	10:30am to 11:30am
	February 14 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897952)	due by 10:30am
Fri Feb 16, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473664&include_contexts=course_1696487)	10:30am to 11:30am
	February 16 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897951)	due by 10:30am
Sun Feb 18, 2024	Quiz 5 (https://canvas.uw.edu/courses/1696487/assignments/8897942)	due by 11:59pm
Mon Feb 19, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473665&include_contexts=course_1696487)	10:30am to 11:30am
Wed Feb 21, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted	10:30am to 11:30am

Date	Details	Due
	Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473666&include_contexts=course_1696487)	
	Feb 21 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897948)	due by 10:30am
Fri Feb 23, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473667&include_contexts=course_1696487)	10:30am to 11:30am
	February 23 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897954)	due by 11:59pm
Sun Feb 25, 2024	Quiz 6 (https://canvas.uw.edu/courses/1696487/assignments/8897944)	due by 11:59pm
Mon Feb 26, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473668&include_contexts=course_1696487)	10:30am to 11:30am
	February 26 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897955)	due by 12:30pm
	In The News 5 (https://canvas.uw.edu/courses/1696487/assignments/8897964)	due by 11:59pm
	In The News 7 (https://canvas.uw.edu/courses/1696487/assignments/8897967)	due by 11:59pm
Wed Feb 28, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473669&include_contexts=course_1696487)	10:30am to 11:30am
	February 28 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897981)	due by 10:30am

Date	Details	Due
Fri Mar 1, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473670&include_contexts=course_1696487)	10:30am to 11:30am
	March 1 Prep: Vaccine Efficacy and Disinformation (https://canvas.uw.edu/courses/1696487/assignments/8897983)	due by 10:30am
Sun Mar 3, 2024	Quiz 7 (https://canvas.uw.edu/courses/1696487/assignments/8897937)	due by 11:59pm
Mon Mar 4, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473671&include_contexts=course_1696487)	10:30am to 11:30am
	March 4 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897986)	due by 10:30am
	Pathogen Profile Presentations (https://canvas.uw.edu/courses/1696487/assignments/8897990)	due by 10:30am
	March 4 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897984)	due by 11:59pm
Wed Mar 6, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473672&include_contexts=course_1696487)	10:30am to 11:30am
	March 6 Prep (https://canvas.uw.edu/courses/1696487/assignments/8897982)	due by 11:59pm
Fri Mar 8, 2024	ENV H 451 A Wi 24: Ecology Of Environmentally Transmitted Microbiological Hazards (https://canvas.uw.edu/calendar?event_id=3473673&include_contexts=course_1696487)	10:30am to 11:30am

Date	Details	Due
	March 8 Prep: Undergraduate Students (https://canvas.uw.edu/courses/1696487/assignments/8897985)	due by 11:59pm
	Pathogen Profile Posters (https://canvas.uw.edu/courses/1696487/assignments/8897989)	due by 11:59pm
	TA Final Review (https://canvas.uw.edu/courses/1696487/assignments/8897959)	due by 11:59pm
Thu Mar 14, 2024	Final Exam (https://canvas.uw.edu/courses/1696487/assignments/8897940)	due by 11:59pm
	Class Participation (Undergrad Students) (https://canvas.uw.edu/courses/1696487/assignments/8897946)	
	In The News 8 (https://canvas.uw.edu/courses/1696487/assignments/8897966)	
	In The News 9 (https://canvas.uw.edu/courses/1696487/assignments/8897968)	
	Participation (Grad Students) (https://canvas.uw.edu/courses/1696487/assignments/8897988)	