



ENVH 311: Introduction to Environmental Public Health Spring Quarter 2022 Course Syllabus

Course Description

This course explores the relationship people have with their environment, the risk management choices made, and the resulting associations that affect health and physical well-being for the individual, communities, and susceptible populations. The field of Environmental Public Health (EPH) is a professional, interdisciplinary field focused on the science and practice of preventing injury and illness from exposures to hazards in our environments.

ENVH 311 is designed as a survey course and is intended to introduce students to foundational and technical concepts in the field of EPH. Primarily, students will learn how a variety of environmental factors impact health outcomes, the current control measures on preventing or minimizing the health effects from the negative environmental impacts, and where to access additional information to make a difference at the individual, community or higher level. The course is designed to acquaint the student with the scientific and technical foundations of the field and examines both practice and research contributions to understanding and controlling environmental hazards. This course is also intended to be a survey course, meaning that everyone is touched by EPH principles and topical areas of concern every day; we all eat, drink, produce waste, and breathe air each day. This course delivers important information and resources for the students' own health and wellness advocacy as they move out beyond this institution.

Course Meeting Times and Location

Spring quarter will be delivered using a **flipped classroom model** where **lectures will be posted online**, and **students will meet in person for discussion and group work ONLY 1x/week** either on **Monday, Wednesday, or Friday at 10:30 - 11:20 a.m. in T-625**.

Students will sign up for the discussion day they want to attend for the entire quarter on the Canvas website. **In person discussion sessions begin the week of April 4th**. So, the first time you will be in person in T-625 will be Mon. April. 4th, Wed. April 6th or Fri April. 8th.

Alternatively, for those unable to meet in person (e.g. you are sick during your normally scheduled discussion day), there will be a remote discussion section offered synchronously

with the classroom discussion on Fridays at 10:30-11:20. The first time the online zoom opportunity will be Fri. April. 8th. See the canvas site for the zoom link.

If you are normally scheduled for an in-person discussion group on either M, W or F and you feel ill that day, please drop into our Friday zoom discussion session instead – Do NOT come to class ill.

Course Instructor

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Graduate Teaching Assistants

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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. We honor the people on whose land we are guests.

Washington state is home to 29 federally recognized and five unrecognized tribes. I encourage you to visit the [Native Land](#) website and look up which tribe(s) or band(s)' land you currently reside on.

Course Learning Objectives

It is intended that at the completion of this course, each student should be able to:

1. Describe and illustrate, through case example(s), ways in which environmental factors in community, occupational and residential settings impact health;
2. List the major agencies and organizations involved in environmental health protection and explain their basic responsibilities, programs and problems;
3. Explain the pertinent scientific principles associated with the major environmental health program areas;
4. Explain and illustrate, through case example(s), how factors, such as community perceptions, public health law, traditions, socioeconomic conditions, politics and interpersonal communications, may influence the practice of environmental health;

5. Describe the benefits and limitations of the various methodologies (such as regulation, education, impact statements and public funding) through which society attempts to minimize negative environmental health impacts;
6. Examine personal contributions to environmental degradation and their potential health consequences; and
7. Analyze at least one environmental health topic for its impact on health and propose solutions based on what is known about the challenges/barriers.

Course Requirements

This course will be delivered using a **flipped classroom model**. All lectures are recorded and available to watch on your own schedule. Students will pick **ONE** of the three regularly scheduled days (M/W/F) as their in-person group discussion day. Starting the second week of the quarter, students will be expected to attend their chosen discussion day each week (10:30-11:20). **Students are expected to come to the discussion, each week, having read and watched materials from the previous week.** For students that are unable to attend in person, a Friday zoom-based discussion session is available. You do not need permission to miss an in-person discussion session. If you are sick, please use the zoom, remote discussion opportunity on Fridays.

1. Individual Assignments:

- a. For most class sessions, the required readings come with a quiz. Most quizzes are ~2-4pts (1 pt) questions (~60 pts total);
- b. Students are expected to come to their weekly discussion session having read, watched the previous week's lectures and prepared for the day of discussion. Each discussion summary is worth 5 points (50 points total);
- c. Throughout the quarter, several self-assessment and End-of-Case synthesis assignments will be used to supplement the student's self-awareness on a particular topic AND to assess comprehension at the end of a case. These assignments will be listed on the Canvas website, as well as introduced and discussed during Panopto lectures and weekly discussion sessions (~100 pts total).

2. Group Projects:

- a. The previously designed/scheduled group project programming has been discontinued, brought to you by COVID19;
- b. Instead, your discussion groups are designed as skill building, as well as an opportunity to discuss and reach a group consensus on synthesis questions posed by the instructor throughout the quarter. The expectation is that you will be able to complete the question/assignment in the 50 mins. scheduled for your discussion group.

3. **Examinations:** There will be two progress assessment tests (100 pts each) -- one at approximately the halfway mark, and the second at the end of the quarter. The

second test will be cumulative only in the sense that the basic principles and concepts learned in the early portions of the course are applicable to the problems examined in the later portions.

Both exams will consist of 50 multiple-choice questions (2 pts each). They will be delivered through Canvas. They will open on their respective Friday and close at 11:59 pm, Sunday. Each exam can only be taken once and will be time-limited to 60 minutes (continuous, no stop-restart option). **Just like in a classroom, once you start the exam, you must finish it in its entirety within the next 60 minutes.** Make sure you start your exam before 10:58 pm on Sunday, as the exam window-of-opportunity will close at 11:59 pm.

- Progress Assessment Test #1: Available **Friday, April 29th (11:30 am)** – Closes **Sunday, May 1st (11:59 pm)**
- Progress Assessment Test #2: Available **Friday, June 3rd (11:30 am)** – Closes **Sunday, June 5th (11:59 pm)**

There will be NO final scheduled during the final's scheduled timeslot for this class on Monday, June 6th.

Course Materials

- 1) **Required Readings:** The materials in the below textbooks will be supplemented by a series of readings. These readings are designed to enrich your learning experience by providing increased depth in a topic or by presenting an example that illustrates the principles covered in the text and lectures. All readings are available as PDF files that can be viewed on Canvas or downloaded to your computer by following the links provided on the class' Canvas website for each lesson module.
- 2) **Textbooks used in this class are optional to purchase – all materials needed will be provided on canvas:**
 - a) Nadakavukaren, Anne, Our Global Environment: A Health Perspective, 7th Ed., Waveland Press, Prospect Heights, Illinois, 2011. (Relevant sections will be posted on Canvas, while the full text is also available via Amazon as an e-book for a variety of different digital devices [here.](#))
 - b) Frumkin, H. (2016). Environmental health: From global to local (Third ed.). San Francisco, CA: Jossey-Bass, A Wiley Brand. [This text is found online through UW libraries. It is an E-book and is found FREE [here](#) OR look it up via UW online libraries system.]
- 3) **Supplementary (Optional) Readings:** The course modules also list several journal articles, reports, and other materials that expand upon or illuminate specific aspects of the topics covered in this course. Most of these are also available online. In some cases, the suggested readings may be links to government or private websites. These links provide you with additional information on the topic of the lesson and an opportunity to explore the type and scope of information available from these various sources.

There are a number of journals related to environmental health currently available. People wishing to stay abreast of this fast-changing field should at least scan the journals most related to their interests every month. Some of the best of them (or at least the ones most directly related to this course) include:

- *Environmental Health Perspectives*
- *Journal of Environmental Health*
- *American Journal of Public Health*
- *Emerging Infectious Disease Journal*
- *Environment*
- *EPA Journal*

Course Policies

1. **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. 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.

Notice: The University has a license agreement with TurnItIn, an educational tool that helps prevent or identify plagiarism from Internet resources. Your instructor may use the service in this class by requiring that assignments are submitted electronically to be checked by TurnItIn. The TurnItIn Report will indicate the amount of original text in your work and whether all material that you quoted, paraphrased, summarized, or used from another source is appropriately referenced.

2. **Access and Accommodation:** 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 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 or disability.uw.edu. 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.

Additionally, 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](#). Accommodations must be requested within the first two weeks of this course using [the Religious Accommodations Request form](#).

3. Anti-Racism Commitment: The faculty of the School of Public Health commit to facilitating student learning that occurs in an inclusive, anti-racist environment. We view our courses and co-curricular activities as opportunities to demonstrate program-wide efforts to challenge systemic racism within a caring community. We also seek alliances with other individuals and organizations involved in combating all forms of social oppression. We acknowledge that programmatic transformation requires sustained effort and periodic self-reflection, thus, our movement forward on a continuum of anti-racism is a work in progress that requires feedback from all community members. We invite all members of our community to identify opportunities to improve our performance in this regard, including classroom interactions, faculty facilitation, and the institutional environment. You may offer feedback through your course instructor, faculty advisor, the program director, and/or anonymous comments in course evaluation forms.

4. COVID-related expectations

Per UW policy, this class will be conducted in person. You should only register for this class if you can attend in person, or if you meet the criteria for an accommodation from Disability Resources for Students (DRS) or a special arrangement approved by the SPH Office of the Dean that allows you to take the course remotely.

Please [contact UW Disability Resources for Students \(DRS\)](#) directly if you feel you may be eligible for an accommodation based on your status as an immunocompromised individual or based on other diagnosed physical or mental health conditions that might prevent you from being able to take classes in-person.

If you are a student enrolled in a program in SPH, and you are either living with an individual who is immunocompromised, OR you are unable to obtain a visa to travel to the US, you may be eligible for a "special arrangement" that will allow you to take this course remotely. To further clarify, immunocompromised refers to individuals with no/critically weakened immune response to the vaccines. Immune compromised is not the same as underlying health concerns which may lead to a more severe response to COVID. Requests for special arrangements to take the class remotely should have been submitted to and approved by the Students and Academic Services team in the Office of the Dean before the beginning of the quarter.

All UW students are expected to complete their [vaccine attestation](#) before arriving on campus. [Per President Cauce’s message March 8](#), following changes to state and local health policies, masks will become optional inside most University facilities starting March 28, the first day of spring quarter. Masks will continue to be required in clinical and other health-care settings and on public transportation, including UW shuttles. We strongly recommend wearing masks indoors during the first two weeks of spring quarter. Please monitor yourself daily for symptoms and stay home if you are sick. It’s also strongly recommended to get tested after travel. Refer to the [UW Face Covering Policy](#) for the latest guidance and follow the campus-wide face-covering policy at all times. You are expected to follow state, local, and UW COVID-19 policies and recommendations. If you feel ill or exhibit possible COVID symptoms, you should not come to class. If you need to temporarily quarantine or isolate per CDC guidance and/or [campus policy](#), you are responsible for notifying your instructors as soon as possible by email. **If you receive a positive COVID-19 test result, you must report to campus Environmental Health & Safety (EH&S) by emailing covidehc@uw.edu or calling 206-616-3344.**

5. **Written Assignments:** All written assignments, must be submitted electronically through Canvas. Your written assignments will be graded on the substance of the content and on the effectiveness of its organization and presentation.
6. **Tests:** There will be no make-up examinations unless approved by the instructor in advance. If a test is missed because of an unexcused absence, it will not be rescheduled.
7. **Grading:** Your final grade will be calculated from the two course exams (200 pts), group discussion reflections (50 pts), individual assignments and any extra credit points (~150+pts). A 4.0 scale will be calculated using the following conversion:

| % = GPA | % = GPA | % = GPA | % = GPA |
|--------------|--------------|--------------|--------------|
| ≥ 97.0 = 4.0 | ≥ 86.9 = 3.1 | ≥ 76.8 = 2.2 | ≥ 66.7 = 1.3 |
| ≥ 95.9 = 3.9 | ≥ 85.8 = 3.0 | ≥ 75.7 = 2.1 | ≥ 65.6 = 1.2 |
| ≥ 94.8 = 3.8 | ≥ 84.7 = 2.9 | ≥ 74.6 = 2.0 | ≥ 64.5 = 1.1 |
| ≥ 93.6 = 3.7 | ≥ 83.5 = 2.8 | ≥ 73.5 = 1.9 | ≥ 63.4 = 1.0 |
| ≥ 92.5 = 3.6 | ≥ 82.4 = 2.7 | ≥ 72.3 = 1.8 | ≥ 62.2 = 0.9 |
| ≥ 91.4 = 3.5 | ≥ 81.3 = 2.6 | ≥ 71.2 = 1.7 | ≥ 61.1 = 0.8 |
| ≥ 90.3 = 3.4 | ≥ 80.2 = 2.5 | ≥ 70.1 = 1.6 | ≥ 60.0 = 0.7 |
| ≥ 89.2 = 3.3 | ≥ 79.1 = 2.4 | ≥ 69.0 = 1.5 | |
| ≥ 88.0 = 3.2 | ≥ 77.9 = 2.3 | ≥ 67.8 = 1.4 | |

ENVH 311 – Spring Quarter 2022 Tentative Course Schedule

(NOTE: This schedule is still under construction and the list of lectures and assignments is subject to change.) COVID19 may result in the unavailability of some guest lectures and therefore the format or topic may change.

IMPORTANT: The reading assignments for each lecture are listed on the course Canvas website in the module for each day. Lectures will be recorded and posted, at the latest, by 10:30 am of the date listed below. **Be sure that you have read the *previous week's* readings and watched the posted Panopto lectures before attending your weekly group meeting!!**

| No | Day | Date | Lesson Topic | Lecturer |
|----|-----|------|---|----------------------------|
| 1 | Mon | 3/28 | Course Introduction | Tania Busch Isaksen, DEOHS |
| 2 | Wed | 3/30 | Population Dynamics & Public Health | Tania Busch Isaksen, DEOHS |
| | | | Flint, MI | |
| 3 | Fri | 4/1 | Environmental Public Health/Risk Assessment Framework | Tania Busch Isaksen, DEOHS |
| 4 | Mon | 4/4 | Toxicology | Tania Busch Isaksen, DEOHS |
| 5 | Wed | 4/6 | Epidemiology | Tania Busch Isaksen, DEOHS |
| 6 | Fri | 4/8 | Exposure Assessment & Control | Tania Busch Isaksen, DEOHS |
| 7 | Mon | 4/11 | Water Resources | Carly Bednarski, DEOHS |
| 8 | Wed | 4/13 | Drinking Water Quality | Carly Bednarski, DEOHS |
| 9 | Fri | 4/15 | Flint, MI wrap up | Tania Busch Isaksen, DEOHS |
| | | | Norovirus & Food Safety | |
| 10 | Mon | 4/18 | Human Disease Transmission, prevention & Control | Tania Busch Isaksen, DEOHS |
| 11 | Wed | 4/20 | Foodborne Illness/Outbreak investigation | Tania Busch Isaksen, DEOHS |
| 12 | Fri | 4/22 | Food Protection & Policy | Tania Busch Isaksen, DEOHS |
| | | | Climate Change and Health | |
| 13 | Mon | 4/25 | Climate Change Basics | Tania Busch Isaksen, DEOHS |

| | | | | |
|------------------------------------|-----|------|---|--|
| 14 | Wed | 4/27 | Climate Change Health Risks | Tania Busch Isaksen, DEOHS |
| 15 | Fri | 4/29 | Air Pollution & Health | Daaniya Iyaz, DEOHS |
| 16 | Mon | 5/2 | Climate Change and Nutrition | Yona Sipos, DEOHS |
| 17 | Wed | 5/4 | Zoonotic/ Vector-borne Disease Transmission & Control | Daaniya Iyaz, DEOHS |
| 18 | Fri | 5/6 | Climate Change Communication: Myths & Denial | John Cook, Skeptical Science |
| 19 | Mon | 5/9 | Go Deeper Day | Student Directed! |
| Duwamish River Clean-up | | | | |
| 20 | Wed | 5/11 | Historical Overview / Legacy Waste | Tania Busch Isaksen, DEOHS |
| 21 | Fri | 5/13 | Solid Waste Disposal | Tania Busch Isaksen, DEOHS |
| 22 | Mon | 5/16 | Alternatives to Landfilling | Tania Busch Isaksen, DEOHS |
| 23 | Wed | 5/18 | Sustainability & Green Chemistry | Nancy Simcox, DEOHS |
| 24 | Fri | 5/20 | Wastewater Treatment – Centralized | Tania Busch Isaksen, DEOHS |
| 25 | Mon | 5/23 | Wastewater Treatment – Decentralized | Tania Busch Isaksen, DEOHS |
| 26 | Wed | 5/25 | Environmental Justice & Community Action | Esther Min, DEOHS & Front and Centered |
| Occupational Health-focused | | | | |
| 27 | Fri | 5/27 | Occ. Health & Safety Overview | Marissa Baker, DEOHS |
| | Mon | 5/30 | Memorial Day – No Class | |
| 28 | Wed | 6/1 | Radiation Health & Safety | Kevin Makinson, UW EH&S |
| 29 | Fri | 6/3 | Course Wrap Up | Tania Busch Isaksen, DEOHS |

ACCREDITATION REQUIREMENTS & COMPETENCIES MET BY COURSE

I. Environmental Health Science and Protection Accreditation Council (EHAC)

requirements met by this course include:

B. Core environmental health knowledge areas (pg 11)

2. Cross Cutting Knowledge Areas:

Analysis and Reduction of Environmental Risks (i.e., Risk Assessment, Risk Communication and Risk Management)

C. Environmental health technical areas (pg 11)

“Students shall have been exposed to the foundational principles of environmental health (six starred topic areas) and most of the following topic areas in their program of study.” This course exposes students to the **bolded** in the list of foundation principles for EH.

Air Quality Control*

All-hazard Preparedness

Built Environment

**Global Climate Change and
Human Health**

Disease Prevention

Environmental Health Planning

Food Protection*

Geographic Information Systems

Global Environmental Health

Hydrogeology

Injury and Violence Prevention

Institutional Health

Occupational Health and Safety*

Radiation Health

Recreational Environmental Health

Risk Analysis

Soils

**Solid and Hazardous Material and
Waste Management***

Water and Wastewater*

Zoonotic and Vector-borne

Diseases and Their Control*

II. Council on Education for Public Health (CEPH) competencies met by this course include:

D-10-1 Public Health Domains

- Overview of Public Health: Address the history and philosophy of public health as well as its core values, concepts, and functions across the globe and in society (Cover)
- Role and Importance of Data in Public Health: Address the basic concepts, methods, and tools of public health data collection, use, and analysis and why evidence-based approaches are an essential part of public health practice (Cover)
- Identifying and Addressing Population Health Challenges: Address the concepts of population health, and the basic processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations (Cover)
- Human Health: Address the underlying science of human health and disease including opportunities for promoting and protecting health across the life course (Cover)

- **Determinants of Health:** Address the socio-economic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities (Cover)
- **Project Implementation:** Address the fundamental concepts and features of project implementation, including planning, assessment, and evaluation (Introduce)
- **Overview of the Health System:** Address the fundamental characteristics and organizational structures of the U.S. health system as well as to the differences in systems in other countries (Cover)
- **Health Policy, Law, Ethics, and Economics:** Address the basic concepts of legal, ethical, economic, and regulatory dimensions of health care and public health policy, and the roles, influences and responsibilities of the different agencies and branches of government (Introduce)
- **Health Communications:** Address the basic concepts of public health-specific communication, including technical and professional writing and the use of mass media and electronic technology (Introduce)

D13-1 Concepts

- Advocacy for protection and promotion of the public's health at all levels of society (Introduce)
- Community dynamics (Introduce)
- Critical thinking and creativity (Cover)
- Cultural contexts in which public health professionals work (N/C)
- Ethical decision making as related to self and society (Introduce)
- Independent work and a personal work ethic (Cover)
- Networking (N/C)
- Organizational dynamics (N/C)
- Professionalism (N/C)
- Research methods (Cover)
- Systems thinking (Cover)
- Teamwork and leadership (Cover)