ENVH 311: Introduction to Environmental Health
Spring Quarter 2020
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
10:30 - 11:20 a.m.
Monday, Wednesday & Friday
Online!

Course Instructor
Tania Busch Isaksen, Senior Lecturer
Department of Environmental & Occupational Health Sciences (DEOHS)
Office: At a zoom room near you!
E-Mail: tania@uw.edu (Best way to contact)
Zoom Office Hours: 11:30 a.m.-12:30 p.m., Mon., Wed., and Fri.; other times by appointment. I will be posting how to do this on your canvas site, once I figure it out!

Graduate Teaching Assistants
Name: Nam-Huy Leduc
Email: nhleduc@uw.edu
Office: At a zoom room near you!
Office Hours: By appointment only

Name: Alex Kossik
Email: kossia@uw.edu
Office: At a zoom room near you!
Office Hours: By appointment only

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
1. Individual Assignments:
   a. Before students can access each Panopto lecture, they will need to take a quiz on the associated posted readings. Most quizzes are ~2 (1 pt) questions (~50 pts total);
   b. Students are expected to come to their zoom discussion session having read, watched the previous week’s lectures and prepared for the day of discussion. Each discussion summary is worth 5 points (40 points total);
   c. Additionally, throughout the quarter, several self-assessment and module 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 module/case. These assignments will be listed on the Canvas website in each
applicable module/case, as well as introduced and discussed during Panopto lectures (~50 pts total).

2. **Group Project/Final Examination:**
   a. The previously scheduled group project programing has been discontinued brought to you by COVID19;
   b. Instead, your zoom groups will be challenged to discuss and reach a group consensus on questions posed by the instructor throughout the quarter. The expectation is that you will be able to complete the question/assignment in the hour scheduled for your zoom group (~50 pts total).

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, May 1st (11:30 am)** – Closes **Sunday, May 3rd (11:59 pm)**
- Progress Assessment Test #2: Available **Friday, June 5th (11:30 am)** – Closes **Sunday, June 7th (11:59 pm)**

*There will be no final scheduled during the final timeslot.*

**Course Materials**

1. **Textbooks (optional to purchase):**
   - 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](#).)
   - 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.]
2. **Required Readings:** The materials in the above 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 of these 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.

3. **Supplementary (Optional) Readings:** The course modules also list a number of 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 VeriCite, 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 VeriCite. The VeriCite 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. **Written Assignments:** All written assignments must be typed and 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.

5. **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.
6. **Grading:** Your final grade will be calculated from the two course exams (200 pts), group zoom (90 pts), individual assignments/participation points and any extra credit points (100+pts). A 4.0 scale will be calculated using the following conversion:

<table>
<thead>
<tr>
<th>% = GPA</th>
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<tbody>
<tr>
<td>≥ 97.0 = 4.0</td>
<td>≥ 86.9 = 3.1</td>
<td>≥ 76.8 = 2.2</td>
<td>≥ 66.7 = 1.3</td>
</tr>
<tr>
<td>≥ 95.9 = 3.9</td>
<td>≥ 85.8 = 3.0</td>
<td>≥ 75.7 = 2.1</td>
<td>≥ 65.6 = 1.2</td>
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<tr>
<td>≥ 94.8 = 3.8</td>
<td>≥ 84.7 = 2.9</td>
<td>≥ 74.6 = 2.0</td>
<td>≥ 64.5 = 1.1</td>
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<td>≥ 83.5 = 2.8</td>
<td>≥ 73.5 = 1.9</td>
<td>≥ 63.4 = 1.0</td>
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<td>≥ 82.4 = 2.7</td>
<td>≥ 72.3 = 1.8</td>
<td>≥ 62.2 = 0.9</td>
</tr>
<tr>
<td>≥ 91.4 = 3.5</td>
<td>≥ 81.3 = 2.6</td>
<td>≥ 71.2 = 1.7</td>
<td>≥ 61.1 = 0.8</td>
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<td>≥ 70.1 = 1.6</td>
<td>≥ 60.0 = 0.7</td>
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<td>≥ 79.1 = 2.4</td>
<td>≥ 69.0 = 1.5</td>
<td></td>
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<tr>
<td>≥ 88.0 = 3.2</td>
<td>≥ 77.9 = 2.3</td>
<td>≥ 67.8 = 1.4</td>
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</table>
### ENVH 311 – Spring Quarter 2020

**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. Be sure that you have read the reading assignment before attending your zoom group meeting!!

<table>
<thead>
<tr>
<th>No</th>
<th>Day</th>
<th>Date</th>
<th>Lesson Topic</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mon</td>
<td>3/30</td>
<td>Course Introduction</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Flint, MI</strong></td>
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</tr>
<tr>
<td>2</td>
<td>Wed</td>
<td>4/1</td>
<td>Population Dynamics &amp; Public Health</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>3</td>
<td>Fri</td>
<td>4/3</td>
<td>Environmental Public Health/Risk Assessment Framework</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>4</td>
<td>Mon</td>
<td>4/6</td>
<td>Toxicology</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>5</td>
<td>Wed</td>
<td>4/8</td>
<td>Epidemiology</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>6</td>
<td>Fri</td>
<td>4/10</td>
<td>Exposure Assessment &amp; Control</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>7</td>
<td>Mon</td>
<td>4/13</td>
<td>Water Resources</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>8</td>
<td>Wed</td>
<td>4/15</td>
<td>Drinking Water Quality</td>
<td>Alex Kossik, DEOHS</td>
</tr>
<tr>
<td>9</td>
<td>Fri</td>
<td>4/17</td>
<td>Case Wrap Up</td>
<td>Tania Busch Isaksen, DEOHS</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Norovirus &amp; Food Safety</strong></td>
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<tr>
<td>10</td>
<td>Mon</td>
<td>4/20</td>
<td>Human Disease Transmission, prevention &amp; Control</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>11</td>
<td>Wed</td>
<td>4/22</td>
<td>Foodborne Illness/Outbreak investigation</td>
<td>Joe Graham, DOH</td>
</tr>
<tr>
<td>12</td>
<td>Fri</td>
<td>4/24</td>
<td>Food Protection &amp; Policy</td>
<td>Tania Busch Isaksen, DEOHS</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Climate Change and Health</strong></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Mon</td>
<td>4/27</td>
<td>Climate Change Basics</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>14</td>
<td>Wed</td>
<td>4/29</td>
<td>Climate Change Health Risks</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>Date</td>
<td>Day</td>
<td>Topic</td>
<td>Instructor</td>
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<tr>
<td>5/1</td>
<td>Fri</td>
<td>Air Pollution &amp; Health</td>
<td>Kaitlyn Kelly, DEOHS</td>
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</tr>
<tr>
<td>5/4</td>
<td>Mon</td>
<td>Zoonotic/ Vector-borne Disease Transmission &amp; Control</td>
<td>Nam-Huy Leduc, DEOHS</td>
<td></td>
</tr>
<tr>
<td>5/6</td>
<td>Wed</td>
<td>Climate Change and Nutrition</td>
<td>Yona Sipos, DEOHS</td>
<td></td>
</tr>
<tr>
<td>5/8</td>
<td>Fri</td>
<td>Climate Change Storytelling / Wrap Up</td>
<td>Tania Busch Isaksen, DEOHS</td>
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</tbody>
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**Duwamish River Clean-up**

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<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/11</td>
<td>Mon</td>
<td>Historical Overview / Legacy Waste</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>5/13</td>
<td>Wed</td>
<td>Solid Waste Disposal</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>5/15</td>
<td>Fri</td>
<td>Alternatives to Landfilling</td>
<td>Tania Busch Isaksen, DEOHS</td>
</tr>
<tr>
<td>5/18</td>
<td>Mon</td>
<td>Sustainability &amp; Green Chemistry</td>
<td>Nancy Simcox, DEOHS</td>
</tr>
<tr>
<td>5/20</td>
<td>Wed</td>
<td>Wastewater Treatment – Centralized</td>
<td>Alex Kossik, DEOHS</td>
</tr>
<tr>
<td>5/22</td>
<td>Fri</td>
<td>Wastewater Treatment – Decentralized</td>
<td>Meagan Jackson, PHSKC</td>
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**Mon 5/25 - Holiday – no class**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>5/27</td>
<td>Wed</td>
<td>Indoor Air Quality &amp; Housing</td>
<td>PHSKC rep.</td>
</tr>
<tr>
<td>5/29</td>
<td>Fri</td>
<td>Environmental Justice &amp; Community Action</td>
<td>Andrew Schiffer, Just Health Action</td>
</tr>
</tbody>
</table>

**Occupational Health**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/1</td>
<td>Mon</td>
<td>Occ. Health &amp; Safety Overview</td>
<td>Marissa Baker, DEOHS</td>
</tr>
<tr>
<td>6/3</td>
<td>Wed</td>
<td>Radiation Health &amp; Safety</td>
<td>Kevin Makinson, UW EH&amp;S</td>
</tr>
<tr>
<td>6/5</td>
<td>Fri</td>
<td>Cannabis &amp; Occupational Health Course Wrap Up</td>
<td>Tania Busch Isaksen, DEOHS</td>
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</table>

**FW**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>6/8</td>
<td>Mon</td>
<td>Group Presentations 8:30 am – 10:20 am</td>
<td>MANDATORY ATTENDANCE</td>
</tr>
</tbody>
</table>
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)