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Class sessions	MWF 10:30-11:50 am	
Class locations	Mondays and Wednesdays – South Campus Center, SoCC 316 except 3 Mondays (2/2, 2/9, 3/9) and 1 Wednesday (2/18) – Foege S-060 Fridays: Odegaard Undergraduate Library, OUGL 136 144 (Active Learning Classroom)	
Web site	UW Canvas: https://canvas.uw.edu/courses/947066	

Course Description

EnvH 510 provides a graduate level overview of environmental and occupational health, with a major focus on developing countries and contrasts with more developed countries. The course examines a broad spectrum of environmental hazards and influential factors, their interactions with human health and well-being, and their relevance to the effective assurance and promotion of public health. Workplace, community, home, regional and global problems are considered, with frequent use of case examples. The course stresses examining environmental health concerns in the broader context of public health, and the social, economic and other factors that mitigate the effects of environmental hazards or otherwise influence population health.

MPH requirement: This course is approved as an option to satisfy the MPH core requirement in environmental health sciences, for students in all MPH programs.

Prerequisites: None; the course is restricted to graduate students.

Learning Objectives

At the end of this course, the student should be able to:

1. **Contrast environmental exposures, health risks, and applicable policies and regulations between less developed and more developed countries or regions.**
2. **Locate, organize and analyze information about environmental health problems and other health determinants, in the context of real-world situations.**
 - A. **Delineate environmental health problems and frame those problems in relevant contexts.**
 - **Evidence base:** Identify the existing evidence base, and critically read and evaluate quantitative and qualitative research findings contained in medical, public health, and social science literature.
 - **Hazards:** Identify the major chemical, microbial, and physical health hazards found in air, water, food, soil, and wastes, and describe their principal effects on health.
 - **Exposure:** Describe basic strategies and select context-appropriate strategies for identifying and evaluating exposures to health and safety hazards in environmental and occupational settings.
 - **Health risk:** Describe methods and select or apply context-appropriate strategies for assessing health risk and identifying acceptable levels of risk associated with environmental and occupational hazards.
 - **Health impacts:** Identify major environmental and occupational health problems associated with morbidity and mortality, and the existing burden of health problems.
 - B. **Characterize the relevant contexts for environmental health problems, including environmental, socioeconomic and political contexts, healthcare and public health systems, cultural values, and community dynamics.**
 - **Contributing factors:** Characterize the potential influence of biological, behavioral, socioeconomic, political, and cultural factors on environmental and occupational health risks.
 - **Vulnerability:** Identify potential vulnerable populations, based on factors such as individual

susceptibility, existing health or social disparities, or disproportionate cumulative burden of environmental health impacts.

- **Regulations:** Identify and describe major regulations, policies, programs, and institutions involved in controlling or mitigating environmental and occupational health risks.
- **Stakeholders:** Identify stakeholders and characterize stakeholder relationships and power dynamics.
- **Resources:** Identify assets for and barriers to change.
- **Overarching factors:** Identify and describe potential impacts of demographic change, economic development, built environments, environmental pollution, and climate and ecosystem change on health, food security, and water resources.

3. **Develop context-appropriate and evidence-based recommendations for environmental health problems; and communicate findings and recommendations to a target audience.**

- **Critical thinking:** Apply evidence-based decision making and critical thinking to environmental health and public health problems.
- **Creativity:** Demonstrate creativity, inquisitiveness, passion, and rigor in the application of public health problem-solving skills.
- **Environmental controls:** Formulate basic strategies for preventing and controlling exposures to health and safety hazards in environmental and occupational settings.
- **Professionalism:** Perform effectively as part of a team, and demonstrate appropriate professional and ethical behaviors.
- **Equity, justice, sustainability:** Discuss the importance of equity, environmental and social justice, and sustainability in addressing problems related to the environment and health.
- **Communication:** Communicate information accurately, effectively and persuasively to a target audience about environmental and occupational health risks, influential factors, and prevention strategies; and anticipate or identify risk perceptions and relevant concerns in the target audience.

Course design

This course uses student-centered, active-learning, investigative-learning, and case-based instructional strategies to promote development of practical and lifelong-learning competencies, and to promote generalist-level mastery of environmental and occupational health competencies. Routine preparation for class and participation are essential for success in the course. The course model and learning objectives are based on the conceptual framework outlined in the 2013 report by the UW MPH Curriculum Review Work Group.

The course learning objectives are organized to identify the major and supportive objectives that students should strive to achieve in the course overall, and particularly in the 2-week cases. The learning objectives also provide the structure for rubrics used to evaluate student products.

The course is organized around three 2-week CASE modules. The case modules are separated by 1-week TOPIC modules that focus on specific topics and short case examples. Each module includes assigned reading and video materials, plus secondary resource materials. Most class sessions are held in an active learning classroom or a flexible-seating classroom where students can work together in small groups.

Each 2-week case module centers around one case situation. The situations are illustrative real-world, complex cases that incorporate major topic areas in environmental health and broader public health. Students collaborate in assigned groups to explore foundational concepts and key factual information, systematically assess the case situation, and consider potential strategies to address environmental and other health problems in the situation.

Class sessions use a mix of student-led and instructor-led activities, although the balance varies between modules. The 2-week case modules predominantly involve student-led group activities, interspersed with instructor-led activities. The 1-week topic modules predominantly involve instructor-led activities. Instructor-led activities typically use a mix of 5-20 minute “mini-lectures,” instructor questions or prompts for the audience, small-group or full-class discussion, and/or individual reflection.

Schedule

The course is organized around three 2-week CASE modules. The case modules are separated by 1-week TOPIC modules that focus on specific topics and short case examples. See “class sessions” figure on separate page.

Reading

Each case-module and most topic-module sessions include assigned and suggested reading and video materials. Required readings and viewing are listed in the respective Modules sections on the course Canvas site. Routine reading/viewing – before the class session -- is essential for success in this course.

There is no required course textbook. Suggested reference text (available online, no cost): *Environmental Health: From Global to Local*. 2nd edition; 2010. Howard Frumkin, editor.

Assignments

See due dates on the “Assignments due dates” figure.

Case-module assignments. For each case module, students will work in groups of 7-9 students and produce:

- **Concept map**

Each student will read the provided case materials, and complete one concept map—in preparation for each case. Hand drawn maps are encouraged. The map should illustrate major features of the case situation, including: environmental exposures, social and other health determinants, and health outcomes.

Bring one copy to class on paper, on Monday of Case-week 1. In addition, before class, scan the concept map and post at the designated Canvas or Catalyst site. Concept maps will be graded simply as: completed and adequate or better quality, completed but weak, late, or not done. There is no single correct approach.

- **Investigative report**

Scoping: Guided by the concept maps, each group will discuss the case on Monday of case-week 1. The goal is to identify major “research questions” and potential sources of information, that are needed to achieve the assigned case product(s). The group will divide research questions among group members.

Investigation: Each student will investigate the assigned research question(s), and write an investigation report—for each case. Post the report on the Canvas or Catalyst on Tuesday of case-week 2. The report should be organized around summary statements and supporting information, and should be concise, readable, well referenced, and length <1000 words (not counting references). The instructors will grade **Case 1** reports using a grading rubric. However, **Case 2 and 3** reports will be “graded” simply as: completed and adequate or better quality, completed but weak, late, or not done. Your group peers, however, will have higher expectations.

Review: Each student must read at least half of the other students’ (in their group) investigation reports before class on Wednesday of case-week 2, and must read all reports before class on Friday.

- **Case product**

Each case will have an assigned case product. In general, the product will be a public health “policy brief,” focused on a specific aspect(s) of the case, directed to a decision-maker or stakeholder group(s).

Case 1: The Case 1 product will be completed as a group during discussion in Wednesday and Friday of case-week 2. The group written product will be nominal (no more than 1 page).

Cases 2 and 3: These case products will be completed individually, building on group discussion during case-week 2. The case product should be concise, well organized, readable (plain language), informative, evidence-based, and if applicable, persuasive. The length should be <1000 words, not counting references. Since this is an academic exercise, the policy brief should include line-item reference notation linked to a reference list. Optional: the group can provide concise supplemental materials. Case products are due Friday, in the week after case-week 2. The instructors will grade Case 2 and 3 reports using a grading rubric.

There is no required peer review of other students’ case products. However, because of the grading scheme for the case products—part of each student’s grade is based on the group’s average grade—students are encouraged to read and comment on (some) other students’ draft reports before submission.

Homework

- **Dose-response and risk assessment:** There is one graded homework assignment, with short-answer questions. The homework focuses on topics covered in the two formal lecture sessions (Jan. 26 and 28) on dose-response

and risk assessment. The homework is straightforward, *IF* students attend and prepare for those lecture sessions (i.e., complete the assigned reading and viewing before class). The homework is due two weeks later.

After receiving a homework grade, students will have the option to prepare a **revised** homework product, for partial additional credit. The revision will include a corrected answer plus explanation.

- **Food safety:** Students will complete the online training class and test for the Washington state food worker card, hosted by Public Health–Seattle & King County. This requires <1 hour, and should be completed before the Feb. 25 class session. It is not necessary to pay the \$10 fee, unless you want a food worker card. This assignment is **ungraded**, other than as complete or not. It is not necessary to do this assignment, if you previously completed the online training or have a food worker card.

Final examination

There will be a final examination, during the UW-assigned time slot in Finals Week. The exam will emphasize explanation, interpretation or integration of environmental health information, and will not require memorization or recall of minor factoids. **Students are allowed to use any print or internet resources.** Students can communicate with other students in the class (but nobody outside the class).

It is possible to take the exam at a separate location. However, the time slot and duration (2 hours) are unchangeable, unless there is very special circumstances or a formal accommodation. The advantage of taking the exam at the classroom location will be opportunities to talk with instructors or peers.

Participation

Routine preparation for class and participation are essential for success in the course. Students must read or view assigned materials before class. Almost all class sessions will include student activities or discussion. The type of activities will differ between group-based “case” sessions and instructor-led “topics” sessions. In general, activities are structured around an instructor-provided question, scenario or provocative statement; and the activity might be completed individually and/or as a group. Some activities may require nominal reflection before or after a class session, and may require a short written product during or after class (e.g., writing one paragraph or a short list, or completing a short survey).

- **TurningPoint “clicker”.** Each student will acquire a “clicker” to use during class sessions throughout the course. Instructions will be provided in class during Week 1. The clicker will not be needed until Week 2.
- **Self and peer performance evaluation.** Each student will complete two (2) short online surveys—following Weeks 6 and 10. Each student will self-assess his/her competency relative to course learning objectives, and will rate performance of students in their group.

Student Evaluation Course grades are determined on the basis of:

55%	Case-module assignments
15%	Investigation reports (1)
40%	Case products (2)
10%	Homework
25%	Participation (including concept maps, Case 2 & 3 investigation reports, food safety training, self/peer surveys)
10%	Final exam

Case 2 and 3 case products; weighted grade: Each student's grade for the Case 2 and Case 3 case products is determined by the grade on their individual product (75%) plus the average grade on products completed by other students in their group (or subgroup).

Grading guidelines are adapted from the Department of Health Services grading guidelines for graduate students: (<http://depts.washington.edu/hserv/grading>)

3.9-4.0	Excellent and exceptional work...for a graduate student
3.7-3.8	Strong work...
3.4-3.6	Competent and sound work...
3.2-3.3	Adequate work..., although some weaknesses are evident
2.9-3.1	Borderline work...
2.7-2.8	Deficient but acceptable work...
<2.7	Unacceptable work...

Categorical grading begins with the default assumption that graduate students produce adequate or competent work, and then moves up or down depending on the described criteria. Case products and the Case 1 investigation report are graded with standardized rubrics, which will be provided to students when they work on those assignments. The homework and final exam are scored with points, and converted by linear scale to a numeric grade. Most other assignments are scored simply using categories such as: completed and adequate or better quality, completed but weak, late, or not done.

Participation: Repeated failure to prepare for class or repeated failure to make productive and collaborative efforts in class can substantially affect a student's participation grade.

Absence notification: Students who plan to miss a case group-discussion session (darker blue sessions on course schedule) must post a brief statement on the course online absence-notification site—before the class session. The statement must summarize whatever arrangements were made with the student's group, to accommodate the absence. Missing any case group-discussion sessions without making advance arrangements with the student's group will substantially affect the participation grade.

Professionalism

Academic integrity: Students at the University of Washington 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.

* <http://sph.washington.edu/students/academicintegrity/>

Electronic devices: Use of laptops or other devices to access the internet is allowed and *encouraged* during class—when it will facilitate or enhance the class experience. However, personal web browsing, and reading or sending email or text messages is not acceptable, if it is not related to the class. Cell phones should be silenced. Students should exit the classroom if they want to check or respond to a personal call or message.

Note-taking: Unless there is a formal request for accommodation—Computers can not be used in this class for note-taking during “topics” lecture sessions, or during group discussions (other than by a group-designated note taker). The purpose of this policy is to promote undivided attention and to minimize distractions. The instructor will explain and justify this policy on the first day of class.

Access and Accommodations

Your experience in this class is important to us, and 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 experience barriers based on a disability or temporary health condition, please seek a meeting with DRS to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

Disability Resources for Students (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. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can 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

ENVH 510: Global Environmental and Occupational Health; class sessions

CLASSROOMS

Week	Date (Mon)	Monday	Wednesday	Friday	Module theme	CLASSROOMS		
						M	W	F
1	5-Jan	Course overview Global scale issues	Global scale issues	Global scale issues Scoping	Global scale issues	SCC	SCC	ALC
2	12-Jan	Case 1	Hazards & exposure	Case 1	Work	SCC	SCC	ALC
3	19-Jan	Martin Luther King Jr. Day	Case 1	Case 1		no class	SCC	ALC
4	26-Jan	Dose-response (lecture)	Risk assessment (lecture)	Case 2	Dose & Risk	SCC	SCC	ALC
5	2-Feb	Water/Sanitation	Case 2	Case 2	Water & Sanitation	Foege	SCC	ALC
6	9-Feb	Water/Sanitation Cumulative assessment	Case 2	Case 2		Foege	SCC	ALC
7	16-Feb	Presidents' Day	Air	Air	Air	no class	Foege	ALC
8	23-Feb	Case 3	Land/Food	Case 3	Land & Food	SCC	SCC	ALC
9	2-Mar	Case 3	Land/Food	Case 3		SCC	SCC	ALC
10	9-Mar	Case 3 [or topic]	Energy and sustainability Urban environment		Energy, Sustainability & Cities	Foege	SCC	ALC
Finals	16-Mar	FINAL EXAM				FINAL		

TYPE OF SESSION

- Topic session
- Case session
- Topic session, focused on case-related topic

LOCATION (Classroom)

- South Campus Center, SoCC 316
- Foege S-060
- Odegaard Undergraduate Library, OUGL 136 (Active Learning Classroom)

ENVH 510: Global Environmental and Occupational Health; assignment due dates

Week	Date (Mon)	Monday	Wednesday	Friday	Module theme
1	5-Jan				Global scale issues
2	12-Jan	Case 1 concept map			Work
3	19-Jan	<i>Martin Luther King Jr. Day</i>	Tuesday: Case 1 investigation report		
4	26-Jan				Dose & Risk
5	2-Feb	Case 2 concept map			Water & Sanitation
6	9-Feb		Tuesday: Case 2 investigation report	Homework due. Sunday: evaluations.	
7	16-Feb	<i>Presidents' Day</i>		Case 2 final report	Air
8	23-Feb	Case 3 concept map	Online food-safety training		Land & Food
9	2-Mar		Tuesday: Case 3 investigation report	OPTIONAL: Revised homework due	
10	9-Mar			Case 3 final report. Sunday: evaluations.	Energy, Sustainability & Cities
Finals	16-Mar	FINAL EXAM			

TYPE OF SESSION

	Topic session
	Case session
	Topic session, focused on case-related topic

Bangladesh

Ethiopia