

Pitt Public Health

EOH 2013: Environmental Health and Disease

In Person class: Tuesday 5:00-6:20 PM

Public Health G23

Credit Hours: 2

Spring 2022

Course Directors: Aaron Barchowsky, Ph.D. aab20@pitt.edu
Alison P. Sanders, Ph.D. aps109@pitt.edu

Email questions or to schedule office visit appointments

Teaching Assistant: Tengziyi Ge, M.S. teg30@pitt.edu
Email questions

Location and time: There will be a 1.5 hour lecture Tuesday from 5:00-6:20 PM in Public Health G23. The course also requires approximately 0.5 hour per week of online group discussion and/or quizzes.

Course Description: This is the Pitt Public Health core curriculum course in Environmental and Occupational Health. The World Health Organization defines environmental health as “those aspects of human health, including qualities of life that are determined by physical, biological, social, and psychosocial factors in the environment.” The discipline of environmental and occupation health refers to the “theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can adversely affect the health of present and future generations.” Sustainable environmental health policies address both environmental and social determinants of public health, as well as environmental equity and justice. This course is designed to introduce the students to basic concepts of public health focusing on assessing the health risks of chemical, biological and physical environmental factors in the context of environmental health equity. It is also designed to integrate with concepts from other disciplines of public health to present an ecological approach to resolving environmental health problems and environmental health inequities.

Course Rationale: The chemical, physical, and built environments greatly impact public health. There are daily reports of environmental and occupational catastrophes, toxic exposures, environmental injustices, and ever-changing policy decisions. This course is designed to introduce the students to the essential tools used in evaluating, responding to, and reducing risk from chemical and environmental hazards, as well as increase awareness of current issues and practice in environmental and occupational health.

Course Objectives: Upon completion of this course, students will attain a level of knowledge and skills that will allow them to “explain effects of environmental factors on a population’s health” (CEPH competency #7) and “explain an ecological perspective on the connections among human health, animal health, and ecosystem health” (CEPH competency #12); integral competencies for practice in public health and community organizations as identified by the Council on Education in Public Health (ceph.org/assets/2016.Criteria.pdf).

The objectives of the course are to combine didactic teaching, case studies, and problem sets to help students:

- Define environment and the requirements for a sustainable healthy environment.

- Identify sources of environmental hazards to human health.
- Explain issues related to measurement of environmental quality, identification of environmental hazards, individual exposures, and risk characterization.
- Identify populations most susceptible to environmental hazards and environmental health disparities.
- Identify sources of disparity in environmental and occupational health and explain reasons for these inequalities.
- Explain the roles of responsible government agencies and identify important laws that regulate and protect environmental quality and health.
- Explain the role of agencies and parties responsible for cleaning the environment.
- Apply approaches for preventing or remediating environmental hazards.
- Apply approaches to protecting populations from environmental hazards.
- Resolve issues of environmental health promotion and environmental inequities.

The course contributes to MPH core competency in the following areas:

- Explaining public health history, philosophy and values.
- Explaining the role of quantitative and qualitative methods and sciences in describing and assessing a population's health.
- Ability to list major causes and trends of morbidity and mortality in the US or other global communities.
- Discussing the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
- Explaining the critical importance of evidence in advancing public health knowledge.
- Explaining biological and genetic factors that affect a population's health.
- Explaining the social, political and economic determinants of health and how they contribute to population health and social environmental health inequities.
- Explaining how globalization affects global burdens of disease.
- Providing an ecological perspective on the connections among human health, animal health and ecosystem health.
- Explaining effects of environmental factors on a population's health.

Course Structure: The Spring 2021 offering of EOH 1013 is designed to be a hybrid with both remote and in person class options. Initially there will be only synchronous, web-based lectures on Tuesday at 5:30-6:55 PM EST. The lectures will be recorded and posted to the Canvas course site. Should the University relax its posture for COVID control, we will provide the option of in person attendance in Public Health G23, although we will have to limit the in person attendance to 39 students per lecture. Tuesday evening classroom lectures present essential vocabulary, current concepts, and current events in environmental and occupational health. Online content includes reading case reports or current cutting edge literature to learn application and practice. Online small group discussions of questions or cases related to the class lectures and outside reading will constitute 0.5 hours of credit/week.

Text: The recommended text for the course is *Essentials of Environmental Health*, third edition, Robert H. Friis, Jones and Bartlett 2018. The text is recommended for those who need more background in environmental health issues and practice. Supplemental materials and required readings will be posted on the course website.

Canvas: <https://canvas.pitt.edu/> The course Canvas site contains announcements, lecture notes, required reading, discussion groups and online questions. The website has a grade book for monitoring progress and performance throughout the semester. The evaluation/student survey tool provides informal, anonymous assessment of the course. Student feedback is essential for ensuring the course delivers material effectively and that the content is appropriate and evolves to benefit current and future classes.

Grading: Letter grades (A, B, C, D, F) are based on performance on biweekly online quizzes (50%) and participation in online discussions (50%). Optional midterm and cumulative final are offered for those who need to or wish to improve their quiz grade.

Schedule: the date is the Tuesday of the weekly lecture

Week	Date*	Topic	Chapter	Lecturer	Assignments
1	1/11	Introduction to environmental and occupational health	1	Barchowsky	DB1
2	1/18	<u>Molecules of life, sickness and death</u>	3**	Barchowsky	
3	1/25	Environmental exposures and modifiers of effects	3**	Ng	DB2, Q1
4	2/1	Risk Assessment, Risk management	2,4**	Barchowsky	
5	2/8	Chemicals and environmental regulation	4, 5-8**	Sanders	DB3, Q2
6	2/15	Water cycle, quality, and health	9	Barchowsky	
7	2/22	Air quality and health	10	Sanders	DB4, Q3
8	3/1	Occupational health and injuries	14	Sanders	
9	3/8	Spring Break			
10	3/15	Food safety and security	11	Barchowsky	DB5 (midterm, optional)
11	3/22	Waste management (environmental and societal problems)	12	Sanders	Q4
12	3/29	Environmental Justice	1	Bortey-Sam	DB6
13	4/5	Life cycle analysis and sustainability	1,4	Barchowsky	Q5
14	4/12	Global health resources and climate change	1	Barchowsky	DB7
15	4/19	Public health impacts of environmental disasters and preparedness		Lichtveld Wahid	Q6
16	4/26	Optional			

* Date of Tuesday evening lecture.

**note that this course will not focus on specific toxicants. However, these lectures will refer to various organic compounds, infectious agents, metals, and radiation. Clarification of the action of these hazards can be found in chapters 5-8 of the text.

DB = discussion board Q = quiz

Quiz schedule

Q1 (1/27-2/28) Opens at 8:00 AM on 1/27 and closes at 5:00 PM on 1/28

Q2 (2/10-2/11) Opens at 8:00 AM on 2/10 and closes at 5:00 PM on 2/11

Q3 (2/24-2/5) Opens at 8:00 AM on 2/24 and closes at 5:00 PM on 2/25

Q4 (3/24-3/25) Opens at 8:00 AM on 3/24 and closes at 5:00 PM on 3/25

Q5 (4/6-4/7) Opens at 8:00 AM on 4/6 and closes at 5:00 PM on 4/7

Q6 (4/21-4/22) Opens at 8:00 AM on 4/21 and closes at 5:00 PM on 4/22

Discussion Board Schedule

DB1 (1/12 8:00AM - 1/23 8:00PM): Wicked problems in environmental health promotion and the exposome

DB2 (1/26 8:00AM - 8:00PM 2/06): Dose response, hazard identification, and regulation

DB3 (2/09 8:00AM - 8:00PM 2/20): Water health and regulations

DB4 (2/23 8:00AM - 8:00PM 3/13): Occupational health.

DB5 (3/16 8:00AM - 8:00PM 3/27): Food production, environmental justice, and sustainability.

DB6 (3/30 8:00AM - 8:00PM 4/10): climate change and social environmental health.

DB7 (4/14 8:00AM - 8:00PM 4/24): Sustainability.

Academic Integrity: All students are expected to adhere to the school's standards of academic honesty. Cheating/plagiarism will not be tolerated. The Graduate School of Public Health's policy on academic integrity, which is based on the University policy, is available online in the Pitt Public Health Academic Handbook www.publichealth.pitt.edu/home/academics/academic-requirements. The policy includes obligations for faculty and students, procedures for adjudicating violations, and other critical information. Please take the time to read this policy.

Plagiarism (University policy): Each student is expected to do her/his own work in class and online. Credit for ideas that are not your own must be given to their originator. Plagiarism is a violation of not only your own intellectual integrity, but also the rights of others to be recognized for their contributions. Plagiarism is a violation of University policies and will not be tolerated. Any work that is not your own will receive a failing grade and may result in suspension from the University.

A student has an obligation to exhibit honesty and to respect the ethical standards of the profession in carrying out his or her academic assignments. Without limiting the application of this principle, a student may be found to have violated this obligation if he or she:

- Presents as one's own, for academic evaluation, the ideas, representations, or words of another person or persons without customary and proper acknowledgment of sources.
- Submits the work of another person in a manner that represents the work to be one's own.
- Source: <http://www.bc.pitt.edu/policies/policy/02/02-03-02.html>

To avoid plagiarism, you must give "customary and proper acknowledgment of sources" by appropriately and clearly identifying which thoughts are yours and which are others, and appropriately citing your sources.

Copyright Notice: The materials provided in the course and on courseweb may be protected by copyright. United States copyright law, 17 USC § 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials. See Library of Congress Copyright Office and the University Copyright Policy.

Students with Disabilities: If you have a disability that requires special testing accommodations or other classroom modifications, you are encouraged to notify both the instructor and Disability Resources and Services (140 William Pitt Union, Oakland Campus 412-648-7890) no later than the second week of the term.

Accessibility

Canvas is ADA Compliant and has fully implemented the final accessibility standards for electronic and information technology covered by Section 508 of the Rehabilitation Act Amendments of 1998. Please note that, due to the flexibility provided in this product, it is possible for some material to inadvertently fall outside of these guidelines.

Diversity Statement

The University of Pittsburgh Graduate School of Public Health considers the diversity of its students, faculty, and staff to be a strength and critical to its educational mission. Pitt Public Health is committed to creating and fostering inclusive learning environments that value human dignity and equity. We are committed to promoting cultural humility and every member of our community is expected to be respectful of the individual perspectives, experiences, behaviors, worldviews, and backgrounds of others. While intellectual disagreement may be constructive, no derogatory statements, or demeaning or discriminatory behavior will be permitted.

If you feel uncomfortable or would like to discuss a situation, please contact any of the following:

- the course instructor
- The University's Office of Diversity and Inclusion at 412-648-7860 or <https://www.diversity.pitt.edu/make-report/report-form> (anonymous reporting form).

Sexual Misconduct. Required Reporting. and Title IX Statement

The University is committed to combatting sexual misconduct. As a result, you should know that University faculty and staff members are required to report any instances of sexual misconduct, including harassment and sexual violence, to the University's Title IX office so that the victim may be provided appropriate resources and support options. What this means is that as your professor, I am required to report any incidents of sexual misconduct that are directly reported to me, or of which I am somehow made aware.

There are two important exceptions to this requirement about which you should be aware:

A list of the designated University employees who, as counselors and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here:

www.titleix.pitt.edu/report/confidentiality.

An important exception to the reporting requirement exists for academic work. Disclosures about sexual misconduct that are shared as part of an academic project, classroom discussion, or course assignment, are not required to be disclosed to the University's Title IX office.

If you are the victim of sexual misconduct, Pitt encourages you to reach out to these resources:

- Title IX Office: 412-648-7860
- SHARE @ the University Counseling Center: 412-648-7930 (8:30 A.M. TO 5 P.M. M-F) and 412-648-7856 (AFTER BUSINESS HOURS)

If you have a safety concern, please contact the University of Pittsburgh Police, 412-624-2121.

Other reporting information is available here: www.titleix.pitt.edu/report-0