

# ENVIRONMENTAL HEALTH

SPRING 2025 | PBH 338

## INSTRUCTION TEAM

Course Instructor: Stacy Jørgensen

Email: stacy.jorgensen@austin.utexas.edu or the messaging application through Canvas

Office Hours: Hours to be announced, Gearing Hall 312 or by appointment

Undergraduate Course Assistants:

To be announced

## PREREQUISITES

Public Health 354 and Statistics and Data Sciences 320E (or 328M) with a grade of at least C- in each

## LOCATION

Section 51635: TTh 9:30-11:00am in UTC 1.130

Section 51640: TTh 12:30-2:00pm in PAR 1

Recordings: Panopto Video or Lectures Online available via Canvas

## COURSE DESCRIPTION

This course offers an introduction to and overview of the major areas of environmental health including how the chemical, physical, and biological factors of the natural and built environment affect human health. Specific subjects of investigation include air and water quality, toxicology and toxic metals, infectious agents, pesticides, environmental policy and regulation, and food safety.

## LEARNING OUTCOMES

By the end of the course, students will be able to:

1. Discuss the history of environmental health in the United States.
2. Explain the general mechanisms underlying the harmful effects of a variety of environmental pollutants including zoonotic and vector-borne diseases, toxic metals and elements, pesticides and other organic chemicals, and radiation that may be encountered in both natural and human-influenced environments.
3. Explain applications of environmental health in protecting water quality, air quality, and food safety.
4. Compare and contrast the policy and regulatory structures designed to manage and mitigate health risks associated with exposures to environmental hazards in the U.S.
5. Identify and discuss current and important environmental health issues.
6. Apply ethical issues of environmental health such as environmental injustice and inequality in environmental rule-making and environmental management.

## REQUIRED TEXTBOOK

Essentials of Environmental Health, 3rd Edition, by Robert H. Friis: Jones and Bartlett Publishers, 2019. The available accompanying software is not required and will not be used for this course.

## Longhorn Textbook Access

The textbook for this class is available through the Longhorn Textbook Access (LTA) program, a collaboration between UT

Austin, The University Co-op, and textbook publishers to reduce the cost of digital course materials for students. You can access your required materials through the "My Textbooks" tab in Canvas. You are automatically opted into the program but can easily opt-out (and back in) via Canvas through the 12<sup>th</sup> class day, which is January 29, 2025. If you remain opted-in at the end of the 12<sup>th</sup> class day you will receive a bill through your "What I Owe" page and have until the end of the 20<sup>th</sup> class day to pay and retain access. More information about the LTA program is available at [universitycoop.com/longhorn-textbook-access](http://universitycoop.com/longhorn-textbook-access).

### Other Readings

Other relevant readings will be available on Canvas.

### DEVICE REQUIREMENTS

You will need a computer capable of accessing the Internet, opening PDF files, and creating documents and presentation slides.

### DROPPING AND Q-DROPS

If you realize you want to drop this course after the twelfth class day (January 29, 2025), you will need to execute a Q-drop before April 16, 2025. More information about Q-drops: <https://ugs.utexas.edu/vick/academic/adddrop/qdrop>

### Important dates

- Jan 29, 2025: Last day to drop a class without permission
- Apr 16, 2025: Last day an undergraduate may: Q-drop a class; withdraw; change a class to pass/fail

### GRADING POLICY

Final grades will be assigned according to the traditional UT Austin grading scale:

Letter Grade	Percentage
A	≥90.0%
B	80.0-89.9%
C	70.0-79.9%
D	60.0-69.9%
F	<60.0%

### EVALUATION

Your final course grade will reflect your effort to learn, understand, apply, assess, and interact with the material from the readings, assessments, and activities throughout the course. All work must be submitted to the course's Canvas site to receive credit; email submissions of assignments will not be accepted.

Late work is eligible for partial credit. The sooner the assignment is turned in after the due date, the greater the partial credit. Deadline extensions for full credit will be provided with a valid excuse, accommodation, or other reasonable explanation accepted by the course instructor.

Items will be weighted as follows to determine final course percentages.

Assignment	Weight
Chapter quizzes (Best 9 of 11)	20%
Module discussions	15%
Module exams	30%
Group project	
Proposal – due March 2 by 11:59pm	5%
Paper – due April 6 by 11:59pm	10%
Presentation – due April 21 by noon	10%
Presentation evaluations -- due April 28 by 11:59pm	5%
Peer evaluations – due April 28 by 11:59pm	5%

### Chapter quizzes

Chapter quizzes will cover material from the assigned reading for the week from the course textbook as well as any other assigned readings. The quizzes exist to encourage you to do the reading before coming to class for the week. Low scores should prompt you to review the reading and your notes.

Chapter quizzes are due at 9:00am on Tuesdays. You may re-take each quiz one time up to the deadline; your highest score will be recorded. Please note that the deadlines will be rigidly applied, and you will not allow you to submit results after the deadline has passed. The quizzes are open notes, but I request that you take it on your own and not in collaboration with your classmates. The top 9 (out of 11 total) scores you receive on these quizzes will be counted toward your final grade in the course; the lowest scores will be dropped. Any missed quizzes will be considered dropped.

### Module discussions

The discussion forum is where we will discuss, as a class, timely topics relevant to the material presented in the modules. Each discussion forum will be started with a prompt from the instructor, and each student should contribute to and further the discussion topic. There will be one discussion topic per module and each will be open for two class weeks.

### Module exams

Exams will be given at the end of each module. Please see the course schedule for exam dates. The module exams will consist of objective format and open response questions related to material covered in the respective module. Exams will be given via Canvas; exams will become available on Friday and are due on Sunday at 11:59pm.

### Perspective negotiation project

Students will work in groups to integrate information from the various aspects of environmental health and apply it to an environmental situation of each group's choosing. Each group will analyze and negotiate a settlement for a complex environmental problem, with each group member taking a different perspective on the situation. More information on this activity will be provided as the course progresses, and we will use class time to meet in groups and discuss potential topics. Listed below are the general requirements and components of the group project:

### *General requirements for the group project*

- Format the paper using APA 7th ed. style, in letter size paper, 1" on all sides, Times New Roman, 12 font size, 1.5 spacing, and page number on the top right (no page number on title page). The APA style guide is available at <https://apastyle.apa.org/instructional-aids/student-paper-setup-guide.pdf> as well as the course Canvas site.
- All files should be in PDF
- Use Canvas to submit your assignment. Sending via email will not be considered.
- Deadlines may be adjusted for groups with members that have documented disabilities, health issues, or family emergencies. Please inform me about your situation ASAP.

All sources must be cited in the text with complete citation information in the references section. Please use APA 7th edition style in your citations and references. You can use the Purdue University OWL guide at <https://owl.purdue.edu> for guidance in formatting your paper. Additional help can be obtained from UT's University Writing Center <https://uwc.utexas.edu>.

### *Group project components*

Proposal (5%). Provide an overview of your group project by completing these sections (~ 600 words):

- Page 1 - A title page that shows your group number, group members, and initial project title. (1%)
- Introduction (1%; ~300 words)
  - Background of the environmental health issue
  - Briefly describe the environmental problem, including identifying the main stakeholders involved in the situation
- The team roles (1%; ~200 words)
  - Identify the proposed perspectives (e.g., health expert, development advocate, attorney) each team member will take for the project
  - Discuss how relevant and recent your information is in connection to your public health issue
- Accountability statement (1% ~100 words)
  - Confirm that each team member was involved selecting the group project
- References (1%; excluded from the word count)

Paper (10%). Provide in ~1,700 words (excluding references) the following sections:

- Page 1 - A title page that shows your group number, group members, and initial project name.
- Executive summary (~200 words)
- Introduction (~300 words)
  - Background of the public health issue
  - Briefly describe the environmental problem, including identifying the main stakeholders involved in the situation
- The team roles (~600 words)
  - The perspective of each team member should be discussed
- Negotiated settlement (~400 words)
  - Describe the group's settlement for the environmental problem
- Conclusions (~200 words)
  - Summary of your work
  - Future work
- References (excluded from the word count)

Presentation (10%). You will have 20-30 min to present your work. While you can opt to have one member do the presentation, it's best if each member can cover a section of the presentation.

Presentation evaluation (5%). You will be randomly assigned to provide an evaluation of at least two group presentations.

Peer evaluation (5%). Please answer the survey (which will be posted in Canvas) about your peers' performance during the group project. Your grade for this component will be based on your and your peers' evaluations.

## ATTENDANCE AND CLASS PARTICIPATION

Active participation in the class is strongly encouraged. Attendance and class participation go hand in hand, as it is not enough to just be physically present. Attendance will be taken on randomly selected dates throughout the semester, and students who attend class regularly may receive extra credit.

## COURSE CALENDAR

All instructions, assignments, readings, rubrics, and essential information will be on the course's Canvas website. Check Canvas regularly. Changes to the schedule may be made at my discretion if circumstances require. I will announce any such changes in class and will also communicate them via a Canvas announcement. It is your responsibility to note these changes when announced, and I will do my best to ensure that you are notified of the changes with as much advance notice as possible.

Week	Topic	Due and Reminders
Week 1	Jan 14-16	Course introduction and environmental health in the time of climate change
		• Obtain course textbook
Week 1 material		
• Healthy People 2030: Environmental Health <a href="https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health">https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health</a>		
Module 1: Environmental Health Background		
Week 2	Jan 21-23	The Environment at Risk
		• Chapter 1 quiz (Jan 21 by 9:00am)
Week 2 material		
• Book chapter 1 • Treser et al. (2017) Healthy People 2030 and Environmental Health. <i>Journal of Environmental Health</i> 80(5): 50-51		
Week 3	Jan 28-30	Environmental Toxicology
		• Chapter 3 quiz (Jan 28 by 9:00am)
Week 3 materials		
• Book chapter 3		
Week 4	Feb 4-6	Environmental Policy and Regulation
		• Chapter 4 quiz (Feb 4 by 9:00am) • Module 1 discussion (Feb 7 by 5:00pm)
Week 4 materials		
• Book chapter 4		
Week 5	Feb 11-13	Climate change and natural disasters
		• Sign up for group (Feb 14 by 11:59pm) • Exam 1 (Feb 16 by 11:59pm)
Week 5 materials		
• Confronting the Realities of Climate Change <i>in</i> Environmental Health: Foundations for Public Health • Documents in the perspective negotiation module		

Week	Topic	Due and Reminders
<b>Module 2: Agents of Environmental Disease</b>		
Week 6	Feb 18-20	Chapter 5: Zoonotic and Vector-Borne Diseases
<ul style="list-style-type: none"> <li>• Chapter 5 quiz (Feb 18 by 9:00am)</li> </ul>		
Week 6 materials <ul style="list-style-type: none"> <li>• Book chapter 5</li> <li>• Documents in the perspective negotiation module</li> </ul>		
Week 7	Feb 25-27	Chapter 6: Toxic Metals and Elements
<ul style="list-style-type: none"> <li>• Chapter 6 quiz (Feb 25 by 9:00am)</li> <li>• <b>Submit project proposal (Mar 2 by 11:59pm)</b></li> </ul>		
Week 7 materials <ul style="list-style-type: none"> <li>• Book chapter 6</li> </ul>		
Week 8	Mar 4-6	Chapter 7: Pesticides and Other Organic Chemicals
<ul style="list-style-type: none"> <li>• Chapter 7 quiz (Mar 4 by 9:00am)</li> <li>• <b>Module 2 discussion (Mar 7 by 5:00pm)</b></li> </ul>		
Week 8 materials <ul style="list-style-type: none"> <li>• Book chapter 7</li> </ul>		
Week 9	Mar 11-13	Chapter 8: Ionizing and Nonionizing Radiation
<ul style="list-style-type: none"> <li>• Chapter 8 quiz (Mar 11 by 9:00am)</li> <li>• <b>Exam 2 (Mar 16 by 11:59pm)</b></li> </ul>		
Week 8 materials <ul style="list-style-type: none"> <li>• Book chapter 8</li> </ul>		
Week 10	Mar 18-20	No class – Spring Break
<ul style="list-style-type: none"> <li>• N/A</li> </ul>		
<b>Module 3: Applications</b>		
Week 11	Mar 25-27	Chapter 9: Water Quality
<ul style="list-style-type: none"> <li>• Chapter 9 quiz (Mar 25 by 9:00am)</li> </ul>		
Week 11 material <ul style="list-style-type: none"> <li>• Book chapter 9</li> </ul>		
Week 12	Apr 1-3	Chapter 10: Air Quality
<ul style="list-style-type: none"> <li>• Chapter 10 quiz (Apr 1 by 9:00am)</li> <li>• <b>Submit project paper (Apr 6 by 11:59pm)</b></li> </ul>		
Week 12 material <ul style="list-style-type: none"> <li>• Book chapter 10</li> <li>• Mikati et al. (2018) Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status. American Journal of Public Health 108 (4): 480-485</li> </ul>		
Week 13	Apr 8-10	Chapter 11: Food Safety
<ul style="list-style-type: none"> <li>• Chapter 11 quiz (Apr 8 at 9:00am)</li> <li>• <b>Module 3 discussion (Apr 11 by 5:00pm)</b></li> </ul>		
Week 13 materials <ul style="list-style-type: none"> <li>• Book chapter 11</li> </ul>		
Week 14	Apr 15-17	Chapter 14: Injuries
<ul style="list-style-type: none"> <li>• Chapter 14 quiz (Apr 15 by 9:00am)</li> <li>• <b>Exam 2 (Apr 20 by 11:59pm)</b></li> <li>• Finalize group presentation details and responsibilities</li> </ul>		
Week 14 materials <ul style="list-style-type: none"> <li>• Book chapter 14</li> </ul>		

Week	Topic	Due and Reminders
<b>Group Project Finale</b>		
Week 15	Apr 22-24	Group presentations via Canvas
		<ul style="list-style-type: none"> <li>• Submit presentation (Apr 21 by noon)</li> <li>• Submit presentation evaluations (Apr 28 by 11:59pm)</li> <li>• Submit peer evaluations (Apr 28 by 11:59pm)</li> </ul>

There is no final exam for this course.

### **DISABILITY AND ACCESS**

At The University of Texas at Austin (UT Austin), we respect and welcome students of all backgrounds, identities, and abilities, and we are committed to creating an effective learning environment for all students. UT Austin provides appropriate academic accommodations for qualified students with disabilities upon request. For more information, contact Disability and Access (D&A) at 512-471-6259 (voice), 512-471-6441 (video phone) or visit them at <https://diversity.utexas.edu/disability/about/>. Students who use D&A services will be provided an accommodation letter, which should be reviewed with your professor. D&A accommodations are not applied retroactively. Please note that we respect your right to privacy and confidentiality. You are not obligated to share personal information with the professor or the grading team.