

Course Syllabus

Adjunct Professor : Douglas Dockery

Course	Environmental Health		
Credit	1	Method of Teaching	Lecture
<p>Objective</p> <p>This course focuses on analytic methods for assessing environmental exposures and hazards. One of the major goals of this class is to understand how modifiable environmental factors influence public health.</p> <p>After taking this course, students should be able to understand and interpret commonly used analytical tools and processes for evaluating the relationship between environmental factors and disease. Moreover, by understanding the tools used to quantify the relationship between environmental factors and disease they will be able to incorporate evidence-based decision making when designing public health policies.</p> <ul style="list-style-type: none"> • Characterize the acute and chronic health effects of major environmental and occupational hazards. • Analyze sources, pathways and routes of exposure to select environmental and occupational hazards to determine the population at risk. • Understand the strengths and limitations of tools commonly used to evaluate the relationship between environmental factors and disease. • Identify ways to reduce exposure to harmful environmental pollutants that will protect public health. • Emphasize leadership skills including critical thinking, team-work, public speaking, and communication. 			
<p>Outline</p> <p>Students will learn methods for quantitative evaluation and public health responses to environmental hazards through lectures, problem solving, and case studies. The course is structured around specific tools including exposure assessment, epidemiology, toxicology and pathophysiology, risk assessment and environmental policy.</p>			
<p>Class Schedule (90 minutes each)</p> <ol style="list-style-type: none"> 1. Introduction to Hazard Identification, Evaluation and Control (15 Jan Wed 13:15-14:45) 2. Case 1: Hazardous waste in Ashland, MA (15 Jan Wed 15:00-16:30) 3. Introduction to Environmental Epidemiology (16 Jan Thu 13:15-14:45) 4. Case 2: The Great Smog (16 Jan Thu 15:00-16:30) 			

5. Introduction to Risk Assessment (17 Jan Fri 13:15-14:45)
6. Case 3: Phthalates: Should they be allowed in children's toys? (17 Jan Fri 15:00-16:30)
7. Introduction to regulatory toxicology (18 Jan Sat 13:15-14:45)
8. Case 4: Lead: Should CDC lower the blood lead action level? (18 Jan Sat 15:00-16:30)

We may add seminars by Japanese teachers for each to assist students with difficulty in language/background knowledge

Text

Cases developed at the Harvard School of Public Health in collaboration with Teikyo University will be posted on class website.

Related readings

Background material based on current scientific literature will be posted on class website.

Achievement evaluation

The primary objective is to learn to apply environmental health concepts to real situations in a way that is useful for decision making. This is a skill that takes practice which is why we have dedicated sessions to case discussion. Students are expected to attend all classes, read the course material before coming to class, and actively engage in course discussions. For each case, students will write a one page (250 word max) opinion paper responding to the assignment question identified in the case.

There will be a written final exam for credit after the completion of the course. (18 Jan Sat 17:30--19:00)