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Course description

This course is a survey of major topic areas of environmental health. It will examine sources, routes, media, and health outcomes associated with biological, chemical and physical agents in the environment. It will cover how the agents affect disease, water quality, air quality, food safety, and land resources in community and occupational settings. The course will introduce the students to the current legal framework, policies, and practices associated with environmental health issues and intended to improve public health.

Course objectives

Upon completion of this course, students will be able to:

1. Describe some the history leading to our current approaches used in evaluating environmental health issues
2. Define the major sources of biological, chemical and physical agents found in water, air, soil, and food
3. Describe the spectrum of environmental and occupational health problems associated with those agents
4. Discuss the methods that are used to analyze health impacts of environmental exposures in the fields of toxicology, exposure assessment, risk assessment, epidemiology, and industrial hygiene
5. Develop competency in analyzing causes of environmental health issues
6. Characterize target populations exposed to hazardous agents
7. Describe methods used to detect, manage, control, or remove health hazards
8. Describe the existing regulatory framework for controlling environmental and occupational agents

Format

The course is conducted as a series of lectures, assignments, a group project, and two tests. Some of the lectures may focus on topics not fully addressed in the text book and some of the chapters will not be covered in lectures. Students are responsible for both text and lecture material. The field of Environmental Health is very broad and there is a great deal of content matter for which you will be responsible. At the same time, it is important that as future and current Public Health professionals you be able to identify valuable sources of material that will be helpful in your profession and integrate concepts across the breadth of areas within Environmental Health and the other Public Health disciplines. The assignments are formulated to help you develop these skills.

There will be a series of assignments related to topics that we cover in class or in your readings. Detailed instructions will be provided with each assignment. The types of references that will be used, scientific journals, popular articles, websites, state and federal health registries, and legal documents, will be specified for each assignment. For all researched assignments, appropriate documentation of sources is required. Plagiarism is unacceptable.

Students will take part in group projects that focus on critical issues in environmental health. Within the topic areas, the students will select a topic, review primary literature, and develop a presentation that introduce the rest of the class to the topic, integrate the concepts as appropriate from the first part of the class (i.e. using the tools of toxicology, epidemiology, laws, policies and regulations, risk assessment, exposure assessment to identify hazards, health effects, public health and environmental prevention and intervention activities, and communication issues).

The two tests will cover the lectures, text and assignments and will build over the semester. The format of the exams will include content questions and integrative questions that rely on the application of concepts and knowledge drawn from readings, lectures, and assignments.

Text book

Environmental Health

Dade W. Moeller Harvard University Press, 2004 ISBN 0-674-01494-4

Contributions to grade

			Grades
Assignments	30%	A	90-100
Presentation	20%	B+	85-89
Test 1	25%	B	80-84
Test 2	25%	C+	75-79
		C	70-74
		D+	65-69
		D	60-64
		F	< 60

Environmental Health Concepts in Public Health

PHC 6313

Spring 2007

<u>Topics</u>	<u>Class dates</u>	<u>Chapters</u>
I. Concepts, approaches and tools		
Introduction/class organization	1/9	M1
Environmental Health Biology	1/11	
Toxicology	1/11	M2
Toxicology cont'd	1/16	
Exposure Assessment and Monitoring	1/18	M16
Epidemiology	1/23	M3
Environmental health law	1/25	M14
Environmental health standards	1/25	M15
Risk assessment	1/30	M17
	2/1	Test 1
II. Food, Soil and Dust		
Residential/children's environmental health	2/6	M11
Food protection and safety	2/8	M6
III. Water and Waste		
Water supplies	2/13	M7
Waste water management	2/15	M8
Solid waste, Hazardous Waste	2/15	M9
Zoonotic diseases	2/20	M10
IV. Air		
Ambient air pollution	2/22	M5
Indoor air pollution	2/22	
V. The Occupational Environment		
Industrial and agricultural chemicals	2/27	M4
Occupational health, OSHA & NIOSH	3/1	
Environmental Health and Safety	3/1	
VI. Other EH areas		
Low-level radiation	3/6	M12
The built environment & EH	3/8	M18
Bioterrorism and environmental disasters	3/20	M19
Multiple Stressors	3/22	M20
	3/27	Test 2
Critical issues – group presentations	4/3 - 4/24	