

PHC 6313

Environmental Health Concepts in Public Health

G301

Spring 2008

Tuesday 11:45-1:40, Thursday 11:45-12:35

Instructor: Natalie C.G. Freeman, Ph.D., M.P.H.
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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 chemical, physical and biological agents in the environment. It will cover how the agents affect water quality, air quality, food safety, land resources, and disease in community and occupational settings. The course will introduce the students to the current federal 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 environmental and occupational health problems associated with chemical, physical and biological 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

Text book

Environmental Health

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

Format

The course is conducted as a series of lectures, assignments, a group project, and three tests. Some of the lectures may focus on topics not fully addressed in the text book and some of the chapters may not be covered fully in lectures. Students are responsible for both text and lecture material. Additional readings will be posted on the class website.

The course is divided into three segments, and each test addresses the topics, lectures, text, and assignments covered within that segment. There is no cumulative final exam, although integration of concepts across the duration of the course will occur and will be

reflected in the three tests. The format of the exams will include content questions (multiple choice, short answer) and integrative questions (essay or outline answers) that rely on the application of concepts and knowledge drawn from readings, lectures, and assignments.

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, read and understand journal articles, 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. The assignments are 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. In some cases the assignments will be guided readings in which a series of questions will be answered or discussed in class. For all researched assignments, appropriate documentation of sources is required.

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 introduces the rest of the class to the topic and integrates 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 and health effects, public health and environmental prevention and intervention activities, and communication issues). Detailed instructions for the projects will be presented in class and will be posted on the class website.

Topic Areas	Date of presentation
Emerging pathogens	3/27
Low-level radiation	4/1
Chemical terrorism	4/1
The built environment	4/3
Global warming	4/8
Multiple stressors	4/8
Bioterrorism	4/10
Environmental Disasters	4/15
Environmental Justice	4/15

All groups need to be identified and an outline including individual responsibilities submitted for approval by March 6, 2008.

Presentations will be held from March 27 though April 15.

Each group presentation will be 40 minutes long.

Each power point will be posted on the website by the end of the presentation day.

Four test questions will be submitted to Dr. Freeman at the time of the presentation and may be used on the 3rd test.

Attendance at group presentations is required.

Contributions to grade		Grades	
Assignments	30%	A	90-100
Test 1	20%	B+	85-89
Test 2	20%	B	80-84
Test 3	20%	C+	75-79
Group project	10%	C	70-74
		D+	65-69
		D	60-64
		F	< 60

Statement of University’s Honesty Policy

Academic Integrity – Students are expected to act in accordance with the University of Florida policy on academic integrity (see Graduate Student Handbook for details). As a member of the University of Florida community, each of us is bound by the academic honesty guidelines of the University and the Code of Student Conduct, printed in the Student Guide and published on the University website. The Honor Code states: “We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.” Cheating, plagiarism, other academic dishonesty or conduct violations in any form is unacceptable and inexcusable behavior that can result in dismissal from the College and/or University. If you have any questions or need any clarifications whatsoever, please ask your instructor.

Policy related to class attendance or other work

You are expected to attend and be prepared to participate in all class sessions and participate in discussions and activities. Please notify your instructor immediately if you are unable to attend. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. **There will be no “make-up exams” without an official medical or similar emergency.** There are no “extra-credit” activities.

Statement related to accommodations for students with disabilities

If you require academic accommodations, you must first register with the Dean of Students’ Office. The Dean of Students’ Office will provide you with documentation that you must provide to me as the faculty member for this course at the time you request the accommodation. The College and the instructor are committed to providing reasonable accommodations to students with special needs in order to assist students in their coursework.

Counseling and mental health services: Students in need of counseling and mental health services are encouraged to explore the Student Health Care Center, <http://www.shcc.ufl.edu> , (352)-392-1161, or the University of Florida Counseling Center, <http://www.counsel.ufl.edu> , (352)-392-1575

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<u>Topics</u>	<u>Class dates</u>	<u>Chapters</u>
I. Concepts, approaches and tools		
Introduction/class organization, EH biology	1/8	M1
Epidemiology and Causality	1/10	M3
Toxicology	1/15	M2
Toxicology	1/17	M2
Exposure Assessment and Monitoring	1/22	M16
Risk Assessment	1/24	M17
Environmental health laws and standards	1/29	M14, 15
Environmental health economics	2/1	M13
	2/5	Test 1
II. Environmental Health Topics		
Residential/children's environmental health	2/7	
Food protection and safety	2/12	M6
Injury Control	2/14	M11
Water supplies	2/19	M7
Waste water management	2/21	M8
Solid waste, Hazardous Waste	2/26	M9
Ambient air pollution - <u>Vito Ilacqua</u>	2/28	M5
Indoor air pollution	2/28	
	3/4	Test 2
Industrial and agricultural chemicals	3/6	
	Spring Break 3/8-3/15	
Occupational health, OSHA & NIOSH	3/18	M4
Environmental Health and Safety	3/20	
III. Other EH areas (primarily group presentations)		
Zoonotic diseases	3/25	M10
Emerging pathogens	3/27	
Low-level radiation and Chemical terrorism	4/1	M12
The built environment	4/3	
Global warming and Multiple stressors	4/8	M18
Bioterrorism	4/10	M19
Environmental Disasters & Environmental Justice	4/15	M20
Emerging chemicals of concern	4/17	
	4/22	Test 3