

## ENVR 600, Environmental Health, Spring 2008

### GENERAL INFORMATION

TIME: 11:00 – 12:15 PM Tuesday - Thursday

PLACE: Rosenau Room 133 (Auditorium in Rosenau 1<sup>st</sup> Floor)

INSTRUCTOR: Don Fox EMAIL don\_fox@unc.edu

OFFICE: 166A Rosenau Hall Office Hours: 12:30 PM Tuesday and other times by appointment

PHONE: 966-9594

CLASS WEB PAGE: blackboard.unc.edu

TEXT: **6<sup>th</sup> EDITION 2006** - Our Global Environment: A Health Perspective. Paperback Text and Study Guide. Anne Nadakavukaren, Waveland Press, Inc, **2006**. You may purchase these materials at the Health Sciences Bookstore.

### DESCRIPTION

A survey of basic environmental health issues. Students will utilize selected readings in the text and information presented in the classroom to characterize the linkages among the environmental consequences of human actions on ourselves and our surroundings. This course is designed to prepare you for the ASPH Core Competencies for Environmental Health (Please see below).

### GOALS

To introduce the factors which characterize interactions of humans and the environment. Student will be able to apply these principles to future environmental health problems.

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### TARGETED SKILLS

Upon completion of this course, students should:

- Understand how human actions generate a flow of materials and energy which have environmental consequences.
- Be able to characterize the environmental health issues with specific pollutants such as dioxins.

- Be able to understand the information required to make decisions about environmental health problems.

## OBJECTIVES

- 1) To define the factors and processes which account for the production of pollutants; the transport and transformation of these into and through the environment; and the effects of these on human health;
- 2) To describe limitations of the means for measuring human-health effects of environmental contaminants;
- 3) To define the atmospheric and hydrologic processes that account for human health deterioration in the work and community environments; and
- 4) To describe the social approaches and technologies for mitigating environmental contamination.

## ASPH Core Competencies for Environmental Health

ASPH Competencies	Topic/Agent/Process	Chapter	Examples
Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety	Assessment – AQ Conc. and Exposure; Prevention – Estb. AQ Stds.; Control, – Engineering and Social Change -	Ch 9, 12, 14, 15, 16	Airborne particulate matter Ch 12, Lectures 23-24
Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents	Sources, Fate and Transport of Toxins  Linkage between occupational health and disease development and community health assessment	Ch 1, 5, 7	Dioxins in environment, hazards and routes of exposure
Specify current environmental risk assessment methods	Hazard Evaluation; Exposure Assessment; Risk Assessment, Risk Management	7, 8	Pesticides, Toxic Chemicals, Radiation
Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards	Environmental Disease	6, 7	Susceptibility Factors – E.g., Gender, Age, Diet, Disease Status
Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity	Radiation, Hazardous and Solid Wastes	10, 16	Landfills, Brownfields,
Explain the general mechanisms of toxicity in eliciting a toxic response to various	DNA Damage-alteration of protein-enzyme patterns; Cellular Damage	6, 7	Radiation, organic chemicals,

environmental exposures			metals, particles
Develop a testable model of environmental insult	Radiation and Skin Cancer;	11, 12	Development of cancer – Lung disease, neurological damage
Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues	Food safety, Pesticides, Air Pollution	8, 9, 11	Pure Foods and Drug Act, FIFRA, Clean Air Act

## COURSE COMPONENTS

The course will include lectures and readings from the textbook. Study guide questions will be completed as topics are covered in lectures. These will be due at the end of the class period on the dates shown in the schedule. There will also be 2 quizzes during the semester. These will include 25-30 objective questions covering both the lecture and reading material. There will also be a Final Exam.

## GRADES

Note about Study Guide Questions. Homework will not be accepted late. Please plan your schedule accordingly. If you are going to be away, you may turn in your homework assignments EARLY.

Study Guide Questions	40%
Quizzes	40%
Final Exam	20%

## FINAL GRADE

H 93-100 (A – Undergraduates)

P 80-92 (B – Undergraduates)

L 70-79 (C – Undergraduates)

F Below 70

Final Examination, May 6<sup>th</sup> 8 AM