

Introduction to Environmental Health
11:375:103:01
Spring 2013
Cook/Douglass Lecture Hall 109

Instructor: Dr. George Van Orden Office Hours: By Appointment
gvanorde@rci.rutgers.edu Classes: Monday 7:15 PM to 10:05 PM
973-428-2485

Course Description:

This course is designed to provide students with an introduction to and overview of the key areas of environmental health. Using the perspectives of the population and community, the course will cover factors associated with the development of environmental health problems. Students will gain an understanding of the interaction of individuals and communities with the environment, the potential impact on health of environmental agents, and specific applications of concepts of environmental health. The course will consist of a series of lectures and will cover principles derived from core environmental health disciplines. Course will discuss disease causation by chemical, physical and biological agents; agent sources/reservoirs, modes of transmission and methods of control; chemical/biological warfare agents and preparedness; disease surveillance and disease causing agent monitoring systems. In addition to academic concepts, the course topics will also be discussed from a field-practitioners point of view.

Objectives

Students who complete this course will be able to:

- (a) Discuss the history and definition of environmental health.
- (b) Discuss the association between population growth and dissemination of environmental pollutants.
- (c) Describe methods used in epidemiology and toxicology to assess environmental exposures and hazards.
- (d) Describe policies that have been developed to manage health risks associated with exposures to environmental hazards.
- (e) Identify chemical, physical, and biological agents that originate in the environment and can impact human health.
- (f) Describe specific applications of environmental health concepts to fields such as water quality control, food safety, occupational health, and injury prevention.

Textbook: "Essentials of Environmental Health, Second Edition" by Robert H. Friis

Other Course Materials on Sakai (access with your Eden account):

- 1) A calendar of class lecture topics and examination dates.
- 2) Lecture note pages containing the PowerPoint slides used in lecture (Print these out and bring them with you to class).

Special Needs, students with a disability: Please see me immediately so that I can make any necessary arrangements to support your needs.

Grading:

Assignments for 20% of the final grade

2 Hourly exams that count for 40% of the final grade (20% each)

Final exam (cumulative) for 40% of the final grade

Grading is based on the timely and correct submission of assignments, as well as performance on two hourly examinations and a final. While the hourly exams cover recent information the final exam is cumulative and include all information covered in class lectures, the text and the additional readings on Sakai.

Guidelines for Assignments

Assignments that involve calculations should be completed in pencil. Please show all work to ensure full credit for the assignment. Correct answers alone will not be given full credit.

Full Credit: The assignment must be complete, correct, and submitted on time (“on time” means the assignment is turned in during the class period when it is due).

Half Credit: Homework that is complete, correct, and submitted within one week of the due date (including that which is turned to my office/mailbox on the same day but after the class period has begun).

No Credit: Homework that is submitted more than 7 days after the due date.

Attendance:

Your presence at all lectures is expected. If you miss a class, you are responsible for all materials, including announcements. Arrange (now!) with a classmate to pick up any handouts and take notes for you. There will be no make-up exams without an acceptable excuse.

If you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

Academic Integrity

Honesty and integrity are an essential part of the educational experience. It is expected that students will complete all quizzes, exams, and assignments in accordance with Rutgers University's academic rules and regulations (See the Rutgers University academic catalog).

Any evidence of academic misconduct, including cheating, failure to cite sources, plagiarism, stealing ideas, or deliberately slanting research results will result in appropriate action as dictated by Rutgers University. Please note that taking information from an Internet site and placing it into text without proper citation is plagiarism and students are subject to the same consequences as they would face for copying information from a text or journal article without proper citation.

While most students understand cheating, many students seem uncertain about plagiarism. Of course, you may not copy anything word for word without putting it in quotes and referencing it. However, it is also plagiarism to report on someone else's idea without referencing it. These requirements refer to anything from the Internet as well as from printed sources.

Class Rules:

NO CELL PHONE DISRUPTIONS! Be sure to check your cell phone before you enter the class.

EXAMINATIONS require simple calculators and pencils. PDAs and cell phones will NOT be allowed to be used as calculators under any circumstances. All cell phones, PDAs, and other materials must be under your seat or zipped into a backpack during examinations. I do not carry spare calculators and calculators may not be shared during examinations.

All examination scheduling conflicts must be discussed at least 1 week prior to the scheduled date of the hourly/exam. In the event of an emergency or illness on the day of an hourly or exam, you must notify me before the exam. If requested, students must provide verification of the absence in order to schedule a make-up hourly/exam. Students who do not make alternate arrangements prior to the hourly/exam will be given a grade of "0" for that hourly/exam.

COURSE SCHEDULE

DATE	TOPIC	READING
Jan. 28	Introduction into Environmental Health (Environmental Health, Population dynamics)	Ch. 1
Feb. 4	Biological Agents of Disease I (Terminology, Disease Causation, Communicable Disease)	Ch. 5
Feb. 11	Biological Agents of Disease II (Foodborne Illness, Food Handling and Sanitation, Surveillance, Influenza Pandemic Planning)	Ch. 11
Feb. 18	Chemical Agents of Disease	Ch. 6, 7
Feb. 25	Hourly Exam I/ Introduction to Environmental Toxicology	Ch. 3, 4
March 4	Video : "The Disappearing Male" / Air Quality	Ch. 10
March 11	Air Quality/Global Climate Change (Air Pollution, Indoor Air Pollution, Stratospheric Ozone)	
March 25	Physical Agents of Disease	Ch. 8, 13
April 1	Water Quality I (Water Resources, Watershed Management)	Ch. 9
April 8	Hourly Exam II/ Water Quality II (Indicator Organisms, Sanitary surveys of natural surface waters, Stream sanitation)	
April 15	Water Quality III (Wastewater Treatment, Septic systems, Drinking Water Treatment)	Ch. 12
April 22	Solid Waste, Contaminated sites	
April 29	Remediation of contaminated sites (Soils, groundwater, surface water, impact on humans)	
May 6	Environmental Epidemiology	Ch. 2
	Final Exam: Date To be Determined	