

SYLLABUS

HLS 452: ENVIRONMENTAL HEALTH (3 HRS)

New Mexico State University
College of Health and Social Services
Department of Health Science

INSTRUCTOR:

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COURSE DESCRIPTION

Introduction to environmental health designed to address public health issues. Same as ES 454

PREREQUISITES

None

REQUIRED TEXTBOOK(S):

To order your textbook on-line, please go to: <http://www.nmsubookstore.com/nmsu/>

Nadakavukaren, Anne (2006). Our Global Environment: A Health Perspective, 6th Edition. Waveland Press, Inc., Long Grove, Illinois.

Nadakavukaren, Anne (2006). Study Guide to Accompany - Our Global Environment: A Health Perspective, 6th Edition. Waveland Press, Inc., Long Grove, Illinois.

COURSE OBJECTIVES

Upon completion of this course the student shall be able to:

Discuss the major environmental health issues facing our global environment in the 21st century

Discuss the status of our global environmental health

Articulate basic concepts of environmental health and convey an understanding of their value and importance

Discuss, define, and develop insight into the following terms and concepts as they relate to global environmental health: population dynamics, population control, the people-food predicament, impacts of growth on ecosystems, environmental

disease, toxic substances, pests, pesticides, food quality, radiation, air pollution, the atmosphere, noise pollution, water resources, water pollution, solid waste, hazardous waste.

Specify common environmental hazards that pose risks to human health and safety.

Discuss global human population numbers and the impact on our global environmental health

Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues

Identify sources of reference research relevant to global environmental health

Identify individual and human behaviors that foster or hinder the well-being of our global environmental health

COURSE OUTLINE

Introduction to Ecological Principles (ecosystems, biotic community, ecological dominants, biomes, ecological niches, limiting factors, limits of tolerance, energy flow through the biosphere, biogeochemical cycling, change in ecosystems)

Population Dynamics (population attributes, population growth forms, homeostatic controls, human population growth, population explosion, urbanization, population projections)

Population Control (early attempts at family limitation, modern family planning movement, birth control and health impacts, contraceptive safety, family planning in the third world, population policy – moving beyond birth control)

The People-Food Predicament (factors influencing food demand, extent of hunger, causes of hunger, health impacts of hunger, prospects for reducing world hunger)

Impacts of Growth on Ecosystems (degradation of land resources, loss of biodiversity)

Environmental Disease (mutation, birth defects, cancer)

Toxic Substances (testing for toxicity, assessing health risk, PCBs, dioxin, asbestos, lead, mercury)

Pests and Pesticides (definitions, problems, pest control, environmental impact of pesticide use, hazards to human health, alternatives to chemical pest control)

Food Quality (food contaminants, food additives, food borne disease, preventing food

- borne disease)
- Radiation (ionizing radiation, ultraviolet radiation, microwaves, electromagnetic fields)
- The Atmosphere (composition of the atmosphere, human impacts on the earth-atmosphere system, rising levels of CO₂, impacts of global warming, the greenhouse policy debate)
- Air Pollution (sources of air pollution, impact of air pollution on human health, pollution control efforts – the clean air act, global air quality trends, acid deposition, indoor air pollution)
- Noise Pollution (sources of noise, noise as a nuisance, nature of sound, noise and hearing loss, other effects of noise, noise control efforts)
- Water Resources (hydrologic cycle, water quantity and health, water supply – our next crisis, groundwater, water management – increasing supply vs. reducing demand)
- Water Pollution (controlling water pollution – the clean water act, sources of water pollution, municipal sewage treatment, new approaches to wastewater treatment, septic systems, industrial discharge, water pollution and health)
- Solid and Hazardous Waste (waste disposal history, municipal solid waste, current waste disposal alternatives, hazardous wastes, hazardous waste management legislation)

EVALUATION OF STUDENT PERFORMANCE

(A) Sixteen (16) homework assignments. These will involve completion of study guide assignments from the study guide booklet that accompanies the textbook. **Note:** Homework assignments are your study guides for the exams. You will get credit for turning them in and answering all questions; credit is not based on correct/incorrect answers. However, it is surely to your benefit to do your research for answering them correctly-- as this will, of course, enhance your capacity to do well on the exams. The correct answers to the questions will not be provided to you (as the answers can be found in the text of the chapters). The point is for you to use them as a study aid and guide for the exams. **Note:** If I see answers that are so way off base (e.g., random writing of "true" or "false" answers or matching answers; or simply arbitrary fill-in-the-blank answers that are completely out of context) -- reflecting a student is just writing something down to complete the assignment-- 0 credit will be given for the entire assignment.

(B) Four (4) Exams will cover all material presented in lecture, Power Point

presentations, assigned readings, and study guide assignments. Each exam will cover 4 chapters (chapters 1-4, 5-8, 9-12, 13-16).

(C) Four (4) Issue Position Papers. Throughout the semester you will be given a total of four (4) fairly extensive articles, each of which presents clashing views on current, significant environmental issues. The articles are presented in a yes/no format, each regarding a significant environmental issue in which the authors present opposing views. You will prepare a paper that summarizes each author's view by listing one author's "yes" talking points and the other author's "no" talking points, i.e., reasons "for" and "against." You will then take a side, i.e., decide on your own position on the issue ("yes" or "no") and provide your reasons "why" for your position. You must use and cite 2 references (not found in the articles) in support of your position (from journals and/or reputable* web sites). References should be listed in APA style. The part of the paper that presents your position should be 1-page in length, single spaced. Papers will then be submitted to me via WebCT's "Assignments" tool. See: (A) the "Issue Position Paper Template" in "Course Information" link on the class homepage, as well as (B) the informational text provided in the Issue Position Paper section of the course (link on home page).

* Reputable web sites: The information they provide is based on research and facts, not on fiction, ideological myth and hearsay, and hyped media reports with a political agenda. In accessing information from a website, you need to exercise a discerning eye to maintain your own credibility; be an educated and intelligent consumer of information!

NOTE: There will NOT be any extra credit assignment options. Students are expected to learn the course material as presented.

GRADING SCALE

- A 90 - 100%
- B 80 - 89%
- C 70 - 79%
- D 60 - 69%
- F < 60%

POINT DISTRIBUTION

16 homework assignment sets @ 10 pts each	160
4 exams @ 100 points each	400
4 issue position papers @ 50 points each	200
TOTAL POINTS POSSIBLE	760

ADA STATEMENT

The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning

environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the NMSU Services for Students with Disabilities (SSD), Corbett Center, Room 244, 646-6840. Instructors will receive specific written guidelines for appropriate accommodations for individual students from the SSD office. No student will be given accommodations for disabilities unless SSD has requested these specific accommodations.

A FEW IMPORTANT WEB SITES

www.apha.org/ American Public Health Association (APHA)

www.awma.org/ Air & Waste Management Association (AWMA)

www.cdc.gov/ Centers for Disease Control (CDC)

www.neha.org National Environmental Health Association (NEHA)

www.epa.gov/ Environmental Protection Agency (EPA)

www.nih.gov/ National Institutes of Health (NIH)

www.nsc.org/ National Safety Council (NSC)

www.os.dhhs.gov/ Department of Health and Human Services (DHHS)

www.osha.gov/ Occupational Safety and Health Administration (OSHA)

www.atsdr.cdc.gov Agency for Toxic Substances and Disease Registry (ATSDR)

www.cdc.gov/niosh/ National Institute for Occupational Safety and Health

www.niehs.nih.gov/ National Institute of Environmental Health Sciences

www.who.int/en/ World Health Organization (WHO)

Healthy People 2010 – Environmental Health

<http://www.healthypeople.gov/Document/HTML/Volume1/08Environmental.htm>