

EHS 100: Introduction to Environmental Health Sciences

Syllabus – fall 2016

**Syllabus is subject to change –
please check course website for updates:**

https://ccle.ucla.edu/local/ucla_syllabus/index.php?id=40120

Course information

Time: Tues & Thurs. 1 pm – 2:50 pm

Location: 43-105 CHS

Instructors:

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Course Overview

This class introduces methodologies, applications, and current areas of research in the field of Environmental Health Sciences.

Required Text

Essentials of Environmental Health
by Robert H. Friis, Ph.D. Publisher: Jones & Bartlett Publishers; 2nd edition (2012)
ISBN-10: 9781284026337

Course Website

All homework assignments are posted on the course website which uses the Moodle platform <https://ccle.ucla.edu/course/view/16F-ENVHLT100-1> In addition, copies of the lecture (Powerpoint presentations) and any other handouts will be posted on the course website AFTER each class. You should also check to make sure that you are able to access Turnitin for this course.

Recordings

Some (if not all) of the sessions of EHS 100 will be recorded during the quarter, which means that your voice and/or visuals of you may be captured during course recordings. These recordings will be made available for online viewing to students in the class afterwards. Recordings are a complement to attending class in person and are not intended as a replacement for active participation and engagement during class. We will keep you posted regarding how to access the recordings online, but they will most likely be made available via our course website.

Course Structure

The class meets from 1-2:50 Tuesdays and Thursdays. Please read all required readings prior to coming to each class. Reading Assignments are listed in the tentative course schedule found at the end of this syllabus; any updates will be posted on the course website.

Course grading

Course grading is based on the following:

1. Two non-cumulative exams and a final cumulative exam, each worth up to 50 points (note: no make-up exams).
2. Two online written assignments worth a total of 50 points. Further guidelines will be given on the class website.
 - a. Review of a journal article (20 points)
 - b. Develop a testable hypothesis (30 points)

Homework Assignments

Do NOT submit your assignments via email. You must submit your assignments electronically using Turnitin via the course website (<http://ccle.ucla.edu/course/view/16S-ENVHLT100-1>). All assignments must be submitted electronically prior to the beginning of class on Tuesday of the week that they are due. A 10% penalty (of the total possible points) will be deducted from late assignments for every day or partial day that the assignment is late. Late assignments will not be accepted after 3 days. All homework (unless otherwise specified in writing by the instructors) must be your own individual work (see **Academic Integrity**, below) and may NOT be completed in groups. Homework assignments and the final report will be checked for authenticity using Turnitin.com.

Midterm

There will be two midterm exams given in class (1-2:50 in 43-105 CHS). Each exam will be worth 50 points, and will consist of multiple choice questions and short answer questions. In addition to the materials covered in class and the Course Learning Objectives provided below, please see the Learning Objectives at the beginning of chapters 1-8 of *Essentials of Environmental Health*, by Robert H. Friis for material that will be covered on the midterm.

Final Report and Group Presentation

The final report allows you to demonstrate your ability to develop and test a hypothesis about how a particular type of environmental insult impacts health. Projects will be developed in small groups (assigned at the beginning of the course) but each student is responsible for submitting their own written report (see website for required format for this assignment). The report must be written individually (i.e. each student writes his or her own report.) All reports must be submitted electronically to Turnitin.com on the course website prior to the beginning of class on Tuesday, November 22nd. A 10% penalty (of the total possible points) will be deducted from late assignments for every day or partial day that the assignment is late. Late assignments will not be accepted after 3 days.

Final Exam

There will be a final exam given during finals week. The final exam will consist of multiple choice questions and short answer questions on topics from the entire semester. In addition to the materials covered in class (both by the professors and by your classmates) and the Course Learning Objectives provided below, please see the Learning Objectives at the beginning of each chapter of *Essentials of Environmental Health*, by Robert H. Friis for material that will be covered on the final exam.

Academic Integrity

All submitted work **MUST BE YOUR OWN**. Although you are encouraged to work on your final project in groups and study in groups, all work submitted for a grade (Homework Assignments and Final Report) must be **IN YOUR OWN WORDS AND PROPERLY CITED** where appropriate. In addition, all examinations must be performed individually and are closed book. You are expected to read and follow the UCLA Student Conduct Code (<http://www.deanofstudents.ucla.edu/conduct.html>) and the guidelines from the Registrar's office on avoiding plagiarism (see <http://www.registrar.ucla.edu/soc/notices.htm#Anchor-Plagiarism-6296> and also <http://www.library.ucla.edu/bruinsuccess/>) If you are not sure whether a particular action is in violation of UCLA's standards of academic integrity or constitutes plagiarism, please contact the instructor and error on the side of caution. Ignorance of the University's policies is not a legitimate excuse for violating them. **ALL VIOLATIONS OF THESE POLICIES WILL BE REFERRED IMMEDIATELY TO THE DEAN OF STUDENTS FOR REVIEW AND DISCIPLINARY ACTION.**

Learning Objectives and Competencies for EHS 100

Upon completion of this course, you should be able to demonstrate the skills listed as “Course Learning Objectives” below. These learning objectives were selected to help you build competencies required for the MPH program (see <http://ph.ucla.edu/current-students/programmatic-competencies>).

COURSE LEARNING OBJECTIVES	HOW THESE LEARNING OBJECTIVES ALIGN WITH MPH CORE COMPETENCIES
1. Given a specific environmental agent, use data sources to develop a concise summary of the agent’s sources, basic attributes, and fate.	<p>C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.</p> <p>C5. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.</p> <p>C9. Identify key sources of data and use existing databases to provide background or supportive data to address environmental health questions.</p> <p>F14. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.</p>
2. Identify adverse effects of environmental agents on human health (both acute and chronic), on ecosystems, and on other risks (including economic and psychological), which requires an awareness of susceptibility, toxicity, and methods of risk analysis.	<p>C1. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.</p> <p>C2. Describe physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.</p> <p>C4. Specify current environmental risk assessment methods.</p> <p>C6. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.</p> <p>C9. Identify key sources of data and use existing databases to provide background or supportive data to address environmental health questions.</p> <p>F11. Articulate how biological, chemical and physical agents affect human health.</p>

COURSE LEARNING OBJECTIVES	HOW THESE LEARNING OBJECTIVES ALIGN WITH MPH CORE COMPETENCIES
3. Recommend systematic controls of environmental health hazards, demonstrating an awareness of state and federal regulatory programs.	C3. Describe federal and state regulatory programs, guidelines, and authorities that control environmental health issues. C5. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
4. Develop a testable model of environmental insults as a means of improving forensic skills for assessing, preventing, and controlling hazards.	C5. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety. C8. Develop a testable model of environmental insult. F14. Apply evidence-based principles and the scientific knowledge base to critical evaluation and decision-making in public health.
5. Accurately and effectively communicate environmental health risks to targeted stakeholders and explain why/whether some populations are at greater risk than others for specific agents.	C7. Discuss various risk management and risk communication approaches, including their relation to issues of environmental justice and equality. F5. Demonstrate effective written and oral skills for communicating with different audiences in the context of professional public health activities.
6. Describe an example of how regulations and/or inspections have been used to prevent environmental health problems; describe who has the authority to impose these regulations in our region.	C3. Describe federal and state regulatory programs, guidelines, and authorities that control environmental health issues.

EHS 100 Spring 2016
Tentative Course Schedule
 Class meets 1-2:50 am Tues, Thurs.
 Lectures are in 43-105 CHS

Date	Lecture Topic	Reading Assignment (Read before class)	Homework Assignment (Must be submitted electronically before the beginning of class on day indicated)
Thurs. Sept. 22	Introduction to Environmental Health Sciences (Hatfield)	Friis: Chapter 1	
Tues. Sept. 27	Environmental Health Law (Hatfield)		
Thurs. Sept. 29	Environmental Epidemiology (Jackson)	Friis: Chapter 2	
Tues. Oct. 4	The Built Environment (Jackson)		
Thurs Oct. 6	Environmental Risk Analysis (Hatfield)		
Tues. Oct. 11	Solid Wastes (Hatfield)	Friis: Chapter 3	
Thurs. Oct. 13	Hazardous Wastes (Hatfield)	Friis: Chapter 6, 12	
Tues. Oct. 18	Exam #1 (Hatfield and TAs proctoring)		
Thurs. Oct. 20	Industrial Hygiene (Hatfield)	Friis: Chapter 13	Homework 1: Review an article
Tues. Oct. 25	Fracking, and Environmental Policy and Regulation (Jackson)	Friis: Chapter 4	
Thurs. Oct. 27	Agents of Environmental Disease: Zoonotic and Vector-Borne Diseases GUEST SPEAKER	Friis: Chapter 5	

Date	Lecture Topic	Reading Assignment (Read before class)	Homework Assignment (Must be submitted electronically before the beginning of class on day indicated)
Tues. Nov. 1	Pesticides (Jackson)	Friis: Chapter 7	
Thurs. Nov. 3	Agents of Environmental Disease: Ionizing and Nonionizing Radiation (Jackson)	Friis: Chapter 8	
Tues. Nov. 8 Election Day	Exam #2 (Jackson)		
Thurs. Nov. 10	Air Quality (Jackson)	Friis: Chapter 10	
Tues. Nov. 15	Food and agricultural policy (Jackson)	Friis: Chapter 11	
Thurs. Nov. 17	Environmental Justice; vulnerable populations (Jackson)		
Tues. Nov. 22	Water Quality (Hatfield)	Friis: Chapter 9	Homework 2: Develop a testable hypothesis
Thurs. Nov. 24	Thanksgiving break		
Tues. Nov. 29	Wastewater treatment (Hatfield)		
Thurs. Dec. 1	Global Effects (Hatfield)		
Fri. Dec. 9	FINAL EXAM 8:00 – 11:00 am (Jackson and TAs proctoring) 43-105 CHS		