

**SAN DIEGO STATE UNIVERSITY  
COLLEGE OF HEALTH AND HUMAN SERVICES  
GRADUATE SCHOOL OF PUBLIC HEALTH  
DIVISION OF EPIDEMIOLOGY AND BIostatISTICS**

**COURSE NO. PH 721  
*ENVIRONMENTAL EPIDEMIOLOGY*  
FALL 2006**

**DAY: WEDNESDAY  
TIME: 1300-1540  
LOCATION: HT 183**

**INSTRUCTOR: LOUISE HOFHERR, PhD  
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**SCOPE OF COURSE:**

This course offers an overview of selected important topics in occupational and environmental epidemiology. This course is designed for those students interested in interpreting and potentially conducting studies in these areas. Epidemiologic methods for studying occupational and environmental determinants of disease will be presented in the context of studies of specific health outcomes, such as cancer, non-malignant respiratory diseases, adverse reproductive outcomes, and neurologic diseases. Emphasis will be placed on the most suitable epidemiologic approaches to characterize exposure-response associations for various occupational and environmental diseases.

The course will be organized around a series of selected problem sets/case studies which are representative of various study designs, analytical issues and a range of exposures and outcomes which will explore practical and theoretical issues of epidemiological methodology.

Students will have an understanding of how to apply epidemiologic principles to the design and analysis of environmental and occupational health studies.

**SPECIFICALLY**, at the end of the course the student will be able to meet the following Learning Objectives

- Describe epidemiologic methods that are utilized to study risk factors in occupational and environmental health

- Describe the design constraints when performing studies of occupational/environmental health questions
- Interpret results of occupational/environmental epidemiology studies
- Design epidemiologic studies to address occupational/environmental health questions
- Defend study proposals before peer reviewers
- Act as a peer reviewer of such study proposals

### STUDENT RESPONSIBILITIES:

- Actively participate in the discussion and design of potential epidemiological studies to evaluate situations of potential health concern.
- Actively participate in the discussion and design of potential epidemiological studies to evaluate environmental situations of potential health concern.
- Complete homework, research and problem set assignments. Students should make a copy of all homework assignments, which will be turned in at the beginning of class. No late papers will be accepted.
- Display competence in the disciplines via midterm and final examinations.

### EVALUATION:

- PROBLEM SETS/STUDY PROPOSALS: will be assigned a week in advance of due date. Student should be prepared to discuss/present in class.
- EXAMS: there will be two take home examinations, a midterm and final. After being presented with information about a possible exposure scenario, students will develop a study design to investigate potential health effects.
- GRADES:

#### PART I: OCCUPATIONAL HEALTH

HOMEWORK	20%
CLASS PARTICIPATION	15%
MIDTERM	15%

#### PART II: ENVIRONMENTAL HEALTH

HOMEWORK	20%
CLASS PARTICIPATION	15%
FINAL	15 <sub>[rag1]</sub> %

WHAT CONSTITUTES A? B? Usual SDSU cutoff values? Curve?  
Other?



## COURSE SCHEDULE

(This schedule is provisional and subject to change)

DATE	TOPIC	ASSIGNMENT	DISCUSSION
<b>PART I</b>	<b>OCCUPATIONAL</b>	<b>EPIDEMIOLOGY</b>	
<b>8/30</b>	Introduction to course  Epi and occupational epi  Clusters	Vinyl Chloride Problem Set <b>#1</b>  <b>Read:</b> Pott, Cancer Scroti; Monson, Proportional Mortality Among Vinyl Chloride Workers	
<b>9/6</b>	Defining the workplace	Chronic Respiratory Diseases, Problem Set <b>#2</b>  <b>Read:</b> Villerme, A Description of the Physical and Moral State of Workers Employed in Cotton, Wool and Silk Mills	Problem Set <b>#1</b> , Readings
<b>9/13</b>	Defining exposure  <b>Movie:</b> More Than We Can Bear	Lead and Renal Abnormalities Disease Problem Set <b>#3</b>  <b>Read:</b> Baker, An Essay Concerning the Cause of Endemial Colic...	Problem Set <b>#2</b> , Readings
<b>9/20</b>	Guest Speaker (tentative)	Environmental Lead Poisoning Caused by Battery Repair Shops	Problem Set <b>#3</b> , Readings, Movie

	Bringing It Home	Problem Set #4  Read: TBN	
9/27	Adverse Reproductive Outcomes  Movie: Song of the Canary	Male Occupational Reproductive Disease Problem Set #5  Read: Silent Spring excerpt	Problem Set #4, Readings
10/4	Occupational exposure and cancer	Bladder Cancer Epidemic in Chemical Workers Problem Set #6  Read: TBN	Problem Set #5 Readings
10/11	Review for Midterm		Problem Set #6 Readings
10/18	<b>MIDTERM</b>		
<b>PART II</b>	<b>ENVIRONMENTAL</b>	<b>EPIDEMIOLOGY</b>	
10/25	Fog	Atmospheric Fog in Greater London Problem Set #7  Read: Letter, Lois Bainbridge Bell, M. Reassessment of the Lethal London Fog...	<b>Midterm</b>
11/1	Natural Disasters and Epidemiology	Natural disaster Study Design #1	Problem Set #7 Readings

	<b>Movie:</b> Volcanoes	<b>Read:</b> TBN	
<b>11/8</b>	Pollution, example: Mercury and Minamata Disease	Pollution Study Design #2 <b>Read:</b> TBN	Study Design #1 Readings
<b>11/15</b>	Monitoring outcomes, ozone depletion and health effects	UV radiation Study Design #3 <b>Read:</b> TBN	Study Design #2 Readings
<b>11/29</b>	Industrial Pollution-Hog Farms	Community Pollution Study Design #4 <b>Read:</b> TBN	Study Design #3 Readings
<b>12/6</b>	Industrial Pollution-Bhopal		Study Design #4
<b>12/13</b>	<b>FINAL</b>		