PURPOSE

This course is intended to provide students with a broad perspective on how the complex interactions of humans with the environment affect health. Emphasis is placed on understanding the ways in which biological, chemical, and physical agents in the environment cause disease and the means by which such disease can be prevented or controlled within human populations.

OBJECTIVES

At the conclusion of this course the student will be able to:

1. Explain the concept and importance of the “ecological” model in developing strategies for preventing or mitigating environmental health problems.

2. Discuss current concepts of disease and the means by which disease is characterized and studied in human populations.

3. Identify specific factors, agents, and conditions within the environment that may cause human disease or adverse health outcomes.

4. Provide a balanced discussion of the relative health risks posed by various levels of exposure to different environmental agents or factors.

5. Describe environmental control strategies that are commonly applied to prevent or minimize the adverse health effects of environmental agents.

6. Discuss current issues and principles of practice in such traditional environmental health areas as vector control, food sanitation, radiological health, air and water pollution control, solid and hazardous waste management, and occupational health.
REQUIRED READING


Reserved Readings:

4. Friis, Robert, “Environmental Epidemiology”
7. Moeller, Dade, Environmental Health, Chapter 4, pp. 52-73.

Reserves available at H316 ONCOURSE site under RESOURCES

GRADING POLICY

The final grade will be based upon a total of 350 points as follows:

1. Examinations (300 points total) - Three examinations (100 points each) will be given during the course of the semester. The examinations will cover material presented in class (including group presentations) and supported from the text, required readings, and class discussions. The examinations will not be cumulative; however, an understanding of material covered previously in the course will be helpful in answering subsequent examination questions.

2. Group Presentation (30 points) - Each student will be required to participate within an assigned group in researching, preparing, and delivering a presentation to the class on a specific environmental health topic. The presentation is expected to require 25-30 minutes and may utilize any of a number of formats (e.g., panel discussion, lecture, dialogue, demonstrations, etc.). The use of slides, overhead transparencies, and handouts is encouraged. The presentation will be evaluated on its applicability, organization, thoroughness, quality of sources, and general effectiveness.

   Initial Outline (5 points) – No later than September 28, the group must submit to the instructor the “initial” outline of the presentation which includes: a title page with the names of the group members and a 2-3 page outline of the presentation.

   Final Outline (5 points) - One class period before the date of the presentation, the group must post on the class ONCOURSE site the “final” outline of the presentation which includes: a title page with the names of the group members, a 2-3 page outline of the presentation, and a reference page including at least 6 references used in the preparation of the presentation.
3. **Evaluation of Group Presentation** (10 points) – Each student is required to serve as an evaluator of one Group Presentation.

**Grading Scale:**
- 90-100 A (+ awarded to top 2 points of each scale;
- 80-89 B - awarded to bottom 2 points of each scale)
- 70-79 C
- 60-69 D
- < 60 F

**CLASS SCHEDULE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/31</td>
<td>Introduction to the Course</td>
<td></td>
</tr>
<tr>
<td>9/2</td>
<td>Concepts of Disease and Environment</td>
<td>RR1, RR2, RR3</td>
</tr>
<tr>
<td>9/7</td>
<td>Ecology and Human Health</td>
<td>T: Ch. 1</td>
</tr>
<tr>
<td>9/9</td>
<td>Human Population and the Environment</td>
<td>T: Ch. 2, 3</td>
</tr>
<tr>
<td>9/14</td>
<td>Environmental Disease</td>
<td>T: Ch. 6</td>
</tr>
<tr>
<td>9/16</td>
<td>Epidemiology</td>
<td>RR4</td>
</tr>
<tr>
<td>9/21</td>
<td>Environmental Health Practice</td>
<td>RR5</td>
</tr>
<tr>
<td>9/23</td>
<td>Measures of Population Health</td>
<td>T: Ch. 6</td>
</tr>
<tr>
<td>9/28</td>
<td><strong>EXAM 1</strong></td>
<td></td>
</tr>
<tr>
<td>10/5</td>
<td>Basic Toxicology/Toxic Substances</td>
<td>T: Ch. 7</td>
</tr>
<tr>
<td>10/7</td>
<td>Risk Assessment/Toxic Substances</td>
<td>T: Ch. 7, RR6</td>
</tr>
<tr>
<td>10/12</td>
<td>Pests and Vectors of Diseases</td>
<td>T: Ch. 8</td>
</tr>
<tr>
<td>10/14</td>
<td>Pesticides</td>
<td>T: Ch. 8</td>
</tr>
<tr>
<td>10/19</td>
<td>Foodborne Disease/Safety</td>
<td>T: Ch. 9</td>
</tr>
<tr>
<td>10/21</td>
<td>Ionizing Radiation</td>
<td>T: Ch. 10</td>
</tr>
<tr>
<td>10/26</td>
<td>Nuclear Issues</td>
<td>T: Ch. 10</td>
</tr>
<tr>
<td>10/28</td>
<td>NonIonizing Radiation</td>
<td>T: Ch. 10</td>
</tr>
</tbody>
</table>
11/2     EXAM 2
11/4     Occupational Health     RR7
11/9     Occupational Health/Noise Pollution     T: Ch. 13
11/11    Outdoor Air Pollution and Control     T: Ch. 11 & 12
11/16    Indoor Air Pollution     T: Ch. 12
11/18    Water Resources and Pollution     T: Ch. 14
11/30    Waterborne Diseases/Pollution Control     T: Ch. 15
12/2     Solid Waste Management     T: Ch. 16
12/7     Hazardous Waste Management     T: Ch. 16
12/9     HazWaste & Course Review
12/17    EXAM 3     (7:15 – 9:15 p.m.)

STUDENT MISCONDUCT

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Code of Student Ethics; http://dsa.indiana.edu/Code/