Graduate School of Public Health  
Department of Environmental and Occupational Health  
EOH 2013: Environmental Health and Disease.

Course Meeting Day(s) and Time(s): Lecture Tuesday 5:00-6:25 G23 Parran. The course also requires approximately 1.5 hours per week of online applied exercises, problem solving, or group discussion.

Credit Hours: 3  
Spring / 2016

Contact Information  
Course Director: Aaron Barchowsky, Ph.D.; aab20@pitt.edu; 412 624-8864, Office 322 BRIDG1  
Teaching Assistant: TBA  
Office Hours: email to schedule an appointment.

Course Description: This is the Graduate School of Public Health core curriculum course in Environmental and Occupational Health. The World Health Organization defines environmental health as “those aspects of human health, including qualities of life that are determined by physical, biological, social, and psychosocial factors in the environment.” The discipline of environmental and occupation health refers to the “theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can adversely affect the health of present and future generations.” This course is designed to introduce the students to basic concepts of public health focusing on chemical and physical environmental factors. It is also designed to integrate with concepts from other disciplines of public health to present an ecological approach to resolving environmental and occupational health problems.

Course Rationale: The chemical, physical, and built environments greatly impact public health. There are daily reports of environmental and occupational catastrophes, toxic exposures, and policy decisions. This course is designed to introduce the students to the essential tools used in evaluating, responding to, and reducing risk from chemical and environmental hazards, as well as increase awareness of current issues and practice in environmental and occupational health.

Course Objectives: The objectives of the course are to combine didactic teaching, case studies, and problem sets to help students:

- Define environment and the requirements for a healthy environment.
- Identify sources of environmental hazards to human health.
- Explain issues related to measurement of environmental quality, identification of environmental hazards, individual exposures, and risk characterization.
- Identify populations most susceptible to environmental hazards.
- Identify sources of disparity in environmental and occupational health and explain reasons for these inequalities.
- Explain the roles of responsible government agencies and identify important laws that regulate and protect environmental quality and health.
- Explain the role of agencies and parties responsible for cleaning the environment.
- Apply approaches for preventing or remediating environmental hazards.
- Apply approaches to protecting populations from environmental hazards.
- Resolve issues of environmental health promotion.

Course Structure: The course is designed to have 1.5 classroom hours and an equivalent amount of online instruction each week. Tuesday evening classroom lectures will be used to present essential vocabulary and concepts in environmental and occupational health. Online content will include reading case reports and current cutting edge literature to learn application and practice. Online small group discussions of questions or cases related to the class lectures and outside reading will constitute 1.5 hours of credit. A group project of developing a wiki
related to current environmental health issues will run through seven weeks of the course and constitute 10% effort in the course.

**Text:** The recommended text for the course is *Essentials of Environmental Health*, second edition, Robert H. Friis, Jones and Bartlett 2012. This book is available for purchase in the Medical School book store and a copy of the book is on reserve in the library. Supplemental materials and required readings will be posted on the course website.

**Blackboard:** [http://courseweb.pitt.edu](http://courseweb.pitt.edu) The Blackboard courseweb site will contain announcements, lecture notes, required reading, discussion boards, wiki building, and online questions. The website will have a grade book for monitoring progress and performance throughout the semester. The evaluation/student survey tool will be used to provide informal, anonymous assessment of the course. Student feedback is essential for ensuring that the course delivers material effectively and that the content is appropriate, targeted at the correct level, and evolves to benefit the current and future classes.

**Class Expectations/ Behavior and Ground Rules:** Lecture attendance is expected and is advantageous to gain the most from the course. Much of the material presented is current and not found in texts. To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student’s own private use. Students should silence their cellular phones and refrain from their use during lecture.

**Grading:** Letter grades (A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (<60%) are based on performance on biweekly online quizzes (45%) and participation in online discussions (45%) and a group wiki (10%). An optional midterm (25%) and cumulative final (25%) is offered for those who need to or wish to improve their grade.

**Assignments and Descriptions**

Quizzes will be multiple choice questions related to information related to lectures and associated text chapters. Optional midterm and final exams are short essay answer format and cover the material on the first three and last three biweekly quizzes respectively. All quizzes and exams are available online through course web.

Discussion boards are mandatory weekly online exercises. These are small group exercises that discuss the broad questions related to the weekly outside readings. There are 10 graded discussion boards during the semester.

Wiki building is an online small group exercise that runs in the background from weeks 5-14. The groups build wiki pages based on current environmental health issues.

**Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
<th>Lecturer</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/12</td>
<td>Introduction to environmental and occupational health</td>
<td>1</td>
<td>Barchowsky</td>
<td>DB1</td>
</tr>
<tr>
<td>2</td>
<td>1/19</td>
<td>Principles of Toxicology</td>
<td>3*</td>
<td>Fabisiak</td>
<td>DB2</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Lecture</td>
<td>Lecturer</td>
<td>Notes</td>
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<tr>
<td>3</td>
<td>1/26</td>
<td>Routes of exposure, gene/environment interactions, and individual susceptibility</td>
<td>3*</td>
<td>Fabisiak</td>
<td>DB3, Q1</td>
</tr>
<tr>
<td>4</td>
<td>2/2</td>
<td>Environmental contaminants, stressors, and radiation</td>
<td>5-8*</td>
<td>Barchowsky</td>
<td>DB4</td>
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<tr>
<td>5</td>
<td>2/9</td>
<td>Assessing the health impacts of environmental exposures and modifiers of effects</td>
<td>2-3</td>
<td>Clougherty</td>
<td>DB5, Q2, W</td>
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<tr>
<td>6</td>
<td>2/16</td>
<td>Risk Assessment, Risk management, Government oversight</td>
<td>3,4*</td>
<td>Barchowsky</td>
<td>DB6, W</td>
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<tr>
<td>7</td>
<td>2/23</td>
<td>Science education and risk communication</td>
<td>1,4</td>
<td>Hufnagel</td>
<td>DB7 Q3, W</td>
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<tr>
<td>8</td>
<td>3/1</td>
<td>Life cycle analysis, sustainable design in the built environment, and public health</td>
<td>1</td>
<td>Bilec</td>
<td>W</td>
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<tr>
<td>9</td>
<td>3/8</td>
<td><strong>Spring Recess</strong></td>
<td>10*</td>
<td>Leikauf</td>
<td>DB8, Q4, W, (midterm, optional)</td>
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<td>10</td>
<td>3/15</td>
<td>Indoor/Outdoor air quality and disease promotion</td>
<td>13-14*</td>
<td>Barchowsky</td>
<td>DB9, Q2, W</td>
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<tr>
<td>11</td>
<td>3/22</td>
<td>Global health resources and climate change</td>
<td></td>
<td>Barchowsky</td>
<td>DB10, W</td>
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<tr>
<td>12</td>
<td>3/29</td>
<td>Occupational health and injuries</td>
<td>9*</td>
<td>Barchowsky</td>
<td>DB11, Q5, W</td>
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<tr>
<td>13</td>
<td>4/5</td>
<td>Water cycle, quality, and health</td>
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<td>Barchowsky</td>
<td>DB12, W</td>
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<tr>
<td>14</td>
<td>4/12</td>
<td>Food safety and security</td>
<td>11</td>
<td>Barchowsky</td>
<td>Q6</td>
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<tr>
<td>15</td>
<td>4/19</td>
<td>Waste management (environmental and societal problems)</td>
<td>12</td>
<td>Barchowsky</td>
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<tr>
<td>16</td>
<td>4/21</td>
<td>Final (optional)</td>
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* note that this course will not focus on specific toxicants. However, these lectures will refer to various organic compounds, infectious agents, or metals. Clarification of the action of these hazards can be found in chapters 5-8 of the text.

DB = discussion board  Q = quiz  W = wiki

**Academic Integrity:** Students in this course will be expected to comply with the University of Pittsburgh’s Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy.

All individuals (students, faculty, post-doctoral researchers, and staff) at Pitt Public Health abide by the University’s policy on academic integrity. In accordance with this policy, the school maintains an outline of the procedural sequence of events to occur when violations of academic integrity are brought to the attention of administrative leaders. The full policy is available in the Academic Handbook.

**Plagiarism (University policy):** Each student is expected to do her/his own work in class and online. Credit for ideas that are not your own must be given to their originator. Plagiarism is a violation of not only your own intellectual integrity, but also the rights of others to be recognized for their contributions. Plagiarism is a violation of University policies and will not be tolerated.
Any work that is not your own will receive a failing grade and may result in suspension from the University.

A student has an obligation to exhibit honesty and to respect the ethical standards of the profession in carrying out his or her academic assignments. Without limiting the application of this principle, a student may be found to have violated this obligation if he or she:

- Presents as one’s own, for academic evaluation, the ideas, representations, or words of another person or persons without customary and proper acknowledgment of sources.

- Submits the work of another person in a manner which represents the work to be one’s own.

Source: [http://www.bc.pitt.edu/policies/policy/02/02-03-02.html](http://www.bc.pitt.edu/policies/policy/02/02-03-02.html)

To avoid plagiarism, you must give “customary and proper acknowledgment of sources” by appropriately and clearly identifying which thoughts are yours and which are others, and appropriately citing your sources.

**Copyright Notice:** The materials provided in the course and on courseweb may be protected by copyright. United States copyright law, 17 USC § 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials. See Library of Congress Copyright Office and the University Copyright Policy.

**Students with Disabilities:** If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and Disability Resources and Services no later than the second week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call (412) 648-7890 (Voice or TTD) to schedule an appointment. The Disability Resources and Services office is located in 140 William Pitt Union on the Oakland campus.

**Accessibility:** Blackboard is ADA Compliant and has fully implemented the final accessibility standards for electronic and information technology covered by Section 508 of the Rehabilitation Act Amendments of 1998. Please note that, due to the flexibility provided in this product, it is possible for some material to inadvertently fall outside of these guidelines.

**Diversity Statement:** The University of Pittsburgh Graduate School of Public Health supports learning environments that are inclusive and respectful of all individuals. Every member of our community is expected to be respectful of the individual perspectives, experiences, behaviors, worldviews, and backgrounds of others.