DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF WASHINGTON
ENVH 111
Exploring Environmental Health Connections
Autumn 2014
3 credit hours

Course Faculty (office hours by appointment)

Professor Thomas M. Burbacher, PhD
Environ. and Occ. Health Sciences (DEOHS)
Office Hours: By Appointment
Office: Health Sciences F555
tmb@uw.edu

Teaching Assistant

Katie Fellows, PhD Student
Exposure Sciences, DEOHS
Office Hours: 2:30-4PM on Tuesday
Office: Health Sciences F226
fellowsk@uw.edu

ENVH 111 – Exploring Environmental Health Connections

COURSE DESCRIPTION

This course serves as a portal through which students can learn about the complex and multi-disciplinary field of Environmental Health Sciences. The natural environment presents a rich variety of hazards to human health: chemical, physical and biological. To these our species has added its own assortment of hazards; for example, synthetic pesticides, industrial pollution and toxic waste. Environmental Health Sciences is the study of the health consequences of human-environment interaction. It is also an applied science, with an emphasis on prevention or intervention to eliminate or reduce human health risks. Each week the course will focus on a major environmental health hazard or controversy such as, food, chemical and workplace safety, indoor and outdoor air pollution, water quality and security, and climate change raising issues of science and policy through lecture and discussion.

The course is structured in weekly modules with each module devoted to a particular environmental or occupational health issue. Tuesday and Thursday class sessions will be lecture/class discussion format. Friday class sessions will be student presentations. Additional topics will be covered in lectures during weeks with holidays or exams.

LEARNING OBJECTIVES

At the end of this course, students will be able to

1. Identify major current and historic environmental health hazards
2. Describe the various approaches to identifying and studying these hazards
3. Describe the various exposure pathways and routes of human exposure to environmental hazards
4. Describe the various approaches to link environmental exposures to human health effects
5. Describe the major agencies, programs, and organizations involved in environmental and occupational health protection.
6. List the variety of environmental and occupational health professions and their roles.

COURSE REQUIREMENTS

- Read assigned background articles for discussion in class
- Participate in student presentations and lead discussions
- Complete Midterm and Final exams

1) **Read assigned background articles for discussion in class:** Students will be assigned an article to read each week. These articles will provide background information on the topic for discussion in class.

2) **Participate in Student Presentations and Lead Discussions:** Students will work in groups to develop oral presentations or discussion questions for our Friday sessions. Friday classes will have, at most, 24 students and students will be divided into 6 groups. Students will be assigned to groups during the week of 9/30. Each group will be responsible for developing presentations on 3 topics and will lead discussions on 3 topics (see table below).

Week	Date	Topic	Presentation Groups	Lead Discussion Groups
4	10/17	Air	Groups 1, 2, 3	Groups 4, 5, 6
5	10/24	Zoonosis	Groups 4, 5, 6	Groups 1, 2, 3
7	11/7	Occ Safety	Groups 1, 2, 3	Groups 4, 5, 6
8	11/14	Water	Groups 4, 5, 6	Groups 1, 2, 3
9	11/7	Haz Waste	Groups 1, 2, 3	Groups 4, 5, 6
11	12/25	Food	Groups 4, 5, 6	Groups 1, 2, 3

Instructions for Presentation Groups

A list of recent articles about an environmental and public health hazard related to the topic under discussion for that week will be provided. Student groups assigned to give a presentation on the topic can choose one of the articles from the list or they can find other articles related to the topic. Articles need to be selected or submitted and approved by the instructor 2 weeks before the scheduled presentation. Once an article is approved, the Presentation Groups will begin researching the topic of the article to obtain more in-depth information about the environmental and public health hazard. Groups should use the UW library Pubmed search database to select relevant scientific articles that provide the information requested for the presentation. Strategies for Pubmed searches will be discussed in class.

Presentation Groups will prepare a 12-minute power-point presentation (12-18 slides) using the information gathered from their research. The power-point presentation should include a brief description of the key points of the article followed by a broader discussion of the information you discovered about the environmental and public health hazard from your research. Remember, Environmental Health Sciences relies on quantitative data to evaluate an environmental and public health hazard. Thus, the broader discussion should include information that addresses the questions below:

1) What is the scope of the environmental and public health hazard in terms of estimated number of people exposed and/or affected? Are there other estimates of impact such as the estimated cost to society?
2) Exposure Assessment: What are the primary sources, pathways, and routes of exposure to the environmental and public health hazard? How is exposure measured to evaluate who is exposed (and who is not) and how is exposure quantified to estimate how much exposure?
3) Linking Exposure to Health Effects -Dose Response: What health effects are discussed in relation to exposure to the environmental and public health hazard? What is known about dose-response relationship for the effects observed for this hazard? (looking for some quantitative data on how much exposure is related to various effects for dose-response information).
4) Public Health Policy: What public health agencies are responsible for regulating the environmental and public health hazard and/or responding to the hazardous threat? What standards and/or regulations are in place to address the hazard?
5) Recommendations: What are the most important issues that need to be addressed regarding the environmental and public health hazard to protect public health and how would you address them?

All presentations will include a reference slide that displays the various sources of information for the talk. The formats for referencing various sources are provided below. Presentation groups must submit the PowerPoint file of their presentation using the Canvas site by 9AM on the day of the presentation. No presentations will be accepted after 9AM on the day of the presentation. This schedule will allow us to review the presentations and upload the files onto the class laptop before class to ensure everything is ready to go. No in-class substitution of files will be allowed.

Instructions for Submitting Your PowerPoint File: On the Canvas course site, click on "Modules" or "Assignments" in the navigation bar on the left and click on the Assignment related to that set of presentations (e.g. "Student Presentations: Air"). On the assignment page, click on the "Submit Assignment" link in the upper right-hand corner of the page. Follow the instructions to upload and submit your file. You also have the option to send a comment to the other members of your group at that time, letting them know that the assignment has been submitted.

Naming Your PowerPoint File: Please use the following convention when naming your presentation file: "Topic"+"Group #".pptx (Example: Food Group AA-1.pptx)

Article Reference Formats

Referencing a Journal Article: Authors, Article Title, Name of Journal, Year Published, Volume Number, Page Numbers

Example: Goode B, O'Reilly C, Dunn J, et al. Outbreak of Escherichia coli O157: H7 Infections After Petting Zoo Visits, North Carolina State Fair, *Arch Pediatr Adolesc Med.* 2009;163:42-48.

Referencing a News Article: Authors, Article Title, *Website Title,* Publisher of Website, Day Month Year article was published, Web, Day Month Year article was accessed, <URL>

Example: Urbina, Ian, As OSHA Emphasizes Safety, Long-Term Health Risks Fester, *New York Times.com,* March 30, 2013, Web, September 25, 2013, http://www.nytimes.com/2013/03/31/us/osha-emphasizes-safety-health-risks-fester.html

Instructions for Lead Discussion Groups

For the weeks that your group is not assigned to give a presentation, your group will act as the Lead Discussion Group for one of presentations. As a member of a Lead Discussion Group, you are responsible for reading the article chosen by your assigned presentation group and developing 3 questions that you would like to ask related to the articles. The 3 questions should be different than the ones provided above in the instructions for developing the presentations. The Lead Discussion groups must submit their three questions by 9AM on the day of the presentation. Questions should be submitted using the Canvas course site. Go to "Modules" in the navigation bar on the left, click on the appropriate assignment (e.g. "Lead Discussion Group Questions: Air Presentations"), click "Submit Assignment" and enter your questions in the text box provided. Can they submit a PDF or word file?

Instructions for All Groups

All students are expected to participate with their group for developing the presentations and the discussion questions. Groups will be given time to meet during the first two Friday sessions. You are expected to attend class and participate in these group activities. If you are going to miss class, please email the TA to let us know. Also be sure to keep in contact with the other members of your group if you are out. Additional out-of-class work on the power-point presentations and discussion questions is expected.

Once you have been assigned to a presentation group, Canvas automatically makes a variety of tools available to facilitate group collaboration by setting up a "mini" Canvas site just for your group. For example, you can start a group discussion that only members of your group (and instructors) can see. To access your group site, hover over the "Courses & Groups" tab at the top of the page and click on the group name under "Current Groups." From there, use the navigation bar at the left to start discussions, share and collaborate on files, and host chats. For more information about the functionality available to you and your group, see the Canvas Student Guide at http://guides.instructure.com/m/4212 or contact Jon Sharpe jsharpe@uw.edu

3) **Complete In-class exams**: There will be two exams: a Midterm and a Final. The Midterm will have 2 parts, Part 1 will be a 50-minute closed-book exam on October 28th based on material from the first half of the quarter (weeks 1-5); Part 2 will be a take-home assignment due on October 31st. Part 2 will be submitted via the Canvas course site. The Final Exam will be closed-book given during Finals Week on material from the entire quarter, with an emphasis on material from the second half of the quarter (weeks 6-11).

Text: No text is required. Readings will be available through the course website.

GRADING

In-class presentations will be graded based on a 14 point scale (score of 0 (no response), 1 (partial response) or 2 (complete response) for answers to each of the 5 questions, plus 0-2 points for the quality of the presentation (format, organization, timing (so make sure you get

the information presented in 5 minutes) and 0-2 points for the quality of the responses to questions. Students who do not attend class without prior notification on their presentation days will receive a 0 for the assignment. Students who do not participate during the week in preparing the presentation will also receive a 0 for the assignment.

Discussion questions will be graded on a 9 point scale (3 points per question). Students who do not attend class without prior notification on their discussion days will receive a 0 for the assignment. Students who do not participate during the week in preparing the discussion questions will also receive a 0 for the assignment.

Your final grade will be based on the following:

- Average grade on in-class presentations = 30%
- Average grade on in-class discussions = 10%
- Grade on Midterm Exam = 30%
- Grade on Final Exam = 30%

Your % score will be translated into Grade Point Equivalents according to the site below.
http://faculty.washington.edu/scstroup/Gradescale.html

Warning: Plagiarism

Plagiarism is the appropriation of another person's ideas, processes, results or words without giving appropriate credit, is considered academic misconduct. Students are expected to reference all work and give appropriate attribution for all materials cited, including any reference to websites or articles. More information is available at http://depts.washington.edu/grading/conduct/index.html. Click on link to "Student Academic Responsibility" for a detailed description of plagiarism and other student conduct issues. In addition, we recommend the following online tools to help you avoid plagiarism:

1. "Getting Real About Plagiarism," the 7-part video by Assistant Professor of English, Leisha Stolt, at Ivy Tech Community College. The URL for part 1 ("Video 1 of 7") can be found at http://youtu.be/m0GJ_bErmRc and the other 6 parts are listed in the right margin of that page.

2. Purdue University Online Writing Lab website, about "Avoiding plagiarism."

   a. Overview and Contradictions: http://owl.english.purdue.edu/owl/resource/589/1/

   b. Is it Plagiarism Yet?: http://owl.english.purdue.edu/owl/resource/589/02/

   c. Safe Practices: http://owl.english.purdue.edu/owl/resource/589/03/

3. "Plagiarism Self Test," by Western Carolina University: http://www.wcu.edu/11869.asp

Plagiarism will result in the student receiving a "0" on the assignment.

Any plagiarism also will be reported to the Committee on Academic Conduct. A hold is placed on the student's registration until he or she meets with an officer of the Committee. Students have the right to appear before the Committee to offer testimony. If found guilty, the student will receive one of the following punishments, listed in order of increasing

severity. All actions are reported to the Vice President for Student Affairs and recorded permanently in the student's record.

1. Disciplinary warning: verbal or written notification that the student has not met the University's standards of conduct, and that a repeated offense will result in more serious disciplinary action. It is not the case that first offenses receive a stricter response, with warnings reserved for cases with unusual mitigating circumstances.

2. Reprimand: a written statement censuring a student for violating University regulations, and stating that another offense will result in more serious action. This is normally considered a lenient response, even for first offenses.

3. Restitution: requirement that the student compensate the University or other persons for damages, injuries, or losses. Failure to comply results in canceled registration and a hold on future registration.

4. Disciplinary Probation: an action that places conditions on the student continued attendance at the University, including the statement that further violation of University policies will likely result in dismissal. The Committee fixes the term and conditions of academic probation. First offenses often result in probation.

5. Dismissal: a written statement notifying a student that his or her attendance at the University has been terminated for violating University policy. The statement includes the term of the dismissal and conditions for readmittance, if any.

IMPORTANT NOTES

Disability Notice

If you would like to request academic accommodations due to a disability, please contact Disability Services Office: Suite 836, Condon Hall 1100 NE Campus Parkway, Voice: 206-543-6450 or 206-543-6452 (TTY). If you have a letter from Disability Resources for Students Office indicating you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need for class.

Participation: Your appreciation and understanding of the issues will be strongly enhanced through regular participation in the class. You will be expected to read assignments before coming to class and be prepared to discuss the readings and respond to questions.

Common Courtesy: We expect students attending class to give their full attention to class activities; so please, no use of cell phones (including texting) and no web surfing or checking e-mail during class. Thank you!

COURSE SCHEDULE ENVH 111 – Exploring Environmental Health Connections

Week	Date	Day	Topic	Lecturer	Room
1	09/25	Th	Course Overview Introduction to Environmental Health	Burbacher	T747
	09/26	Fr	Overview of Presentation Requirements	Burbacher/Fellows	11:30 RR134, T530 1:30 SOCC303, A420
2	9/30	Tu	EH Basics -Exposure Assessment	Burbacher	T747
	10/02	Th	EH Basics –Linking Exposure to Health Effects -Dose-Response	Burbacher	T747
	10/03	Fr	Example Presentation/ Finalize Groups Group Discussions	Burbacher/Fellows	11:30 RR134, T530 1:30 SOCC303, A420
3	10/07	Tu	EH Basics Environmental Epidemiology and Toxicology	Fellows	T747
	10/9	Th	EH Basics -Public Health Agencies, Standards and Regulations	Burbacher	T747
	10/10	Fr	Discussion Groups	Burbacher/Fellows	11:30 RR134, T530 1:30 SOCC303, A420
4	10/14	Tu	Air Pollution	Burbacher	T747
	10/16	Th	South Seattle Community Exposure to Diesel Exhaust	Fox	T747
	10/17	Fr	Air Presentations	Student Groups 1-3	11:30 RR134, T530 1:30 SOCC303, A420
5	10/21	Tu	When Animals Attack	Burbacher	T747
	10/23	Th	Zoonotic Diseases in Washington State	Dykstra	T747
	10/24	Fr	Zoonosis Presentations	Student Groups 4-6	11:30 RR134, T530 1:30 SOCC303, A420
6	10/28	Tu	Midterm Exam-Part 1 In Class	Burbacher	T747
	10/30	Th	Safe Toys Legislation in WA State	Grice	T747
	10/31	Fr	Discussion of Midterm Exam Part 2 Take-Home Due	Burbacher/Fellows	11:30 RR134, T530 1:30 SOCC303, A420
7	11/04	Tu	Occupational Health and Safety: The Price We Pay to Get Paid	Cohen	T747
	11/06	Th	Product substitution: Comparing apples and oranges or red delicious to granny smiths?	Cohen	T747
	11/07	Fr	Occupational Health and Safety Presentations	Student Groups 1-3	11:30 RR134, T530 1:30 SOCC303, A420
8	11/11	Tu	Veterans Day	No Class	
	11/13	Th	Water Pollution/Sound Toxins	Burbacher/Trainer	T747
	11/14	Fr	Water Presentations	Student Groups 4-6	11:30 RR134, T530 1:30 SOCC303, A420
9	11/18	Tu	Hazardous Waste in Your Backyard	Burbacher	T747
	11/20	Th	Duwamish River Superfund Site	Cummings	T747
	11/21	Fr	Waste Presentations	Student Groups 1-3	11:30 RR134, T530 1:30 SOCC303, A420

10	11/25	Tu	Climate Change	Fenske	T747
	11/27	Th	Thanksgiving	No Class	
	11/28	Fr	Thanksgiving	No Class	
11	12/02	Tu	Food Safety	Burbacher	T747
	12/04	Th	Something's Fishy-Mercury in my Seafood	Burbacher	T747
	12/05	Fr	Food Presentations	Student Groups 4-6	11:30 RR134, T530 1:30 SOCC303, A420