

ENVS 411: Pollution & Health

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Class Meeting MW 1600-1750
COL 142

Office Hours: _____ COL 47C

Course Description:

What are major sources of pollution? Where are they concentrated? How bad are they, really? This course is an investigation of the relationship between pollution and human health. We will examine: various forms of pollution, common health problems associated with them, the history of pollution, policy and technological methods to try to reduce negative health consequences, as well as environmental justice concerns related to pollution. This will be accomplished through lecture, discussion of scientific studies, independent research, and in-class activities.

Course Goals:

My basic goal for this course is to give students a better understanding of why pollution is such a complex and multi-faceted problem. I also think that one of the most valuable skills an environmental studies student can develop is the ability to read and discuss literature from various disciplines. I hope this course will make students more familiar with literature from the biological and social sciences, so that they can feel comfortable tackling literature in their own area of interest.

Learning objectives:

By the end of this course, students should be able to:

- Understand the variety, scope, and complexity of pollution problems
- Read, critique, and discuss academic literature (biology, public health, EJ, etc)
- Identify environmental justice concerns
- Analyze policies to reduce pollution
- Feel more comfortable speaking about the above topics, and creatively engaging the material

Class Policies

Academic Misconduct

The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at www.libweb.uoregon.edu/guides/plagiarism/students.

Attendance

Class attendance is not mandatory. However, if you expect to learn and succeed in this course, you should strive to attend each day. Students are responsible for any information, quizzes, or assignments given during a missed class.

Disability Services

Please alert me to any documented disabilities that you may have. For more information, contact disability services (<http://ds.uoregon.edu/>).

Late Work

For written work, you have ***three*** free late days to be distributed across the term. These ought to cover all technical/computing, academic, personal, meteorological, and automotive crises. In-class work and presentations are ineligible. After these three days have been exhausted, late work will be penalized 5% for each day late.

Sensitivity to Classmates

In this class, we will learn about and discuss issues of health and inequality, including topics which may be upsetting or triggering to some students. I expect all students to be respectful of others' opinions, experiences, and personal background. Let's make this a safe space to participate and learn!

Use of Electronics

Please silence cell phones and put them away during class. Computers are allowed for in-class work only!

Course Requirements/ Grading Criteria:

-Participation/ Reading Quizzes/ Homework/ Blog Updates (30%)- Though class attendance is not mandatory, nearly each class period will have some in-class activity for which completion points will be awarded. Class discussions will be much more exciting if you ask questions, add new information to the lecture, and respectfully debate contentious topics. I reserve the right to give reading quizzes during *any* class meeting. These quizzes will deal with main ideas and themes of the texts assigned for that day's class. If you miss a reading quiz, you have one class period to complete a 1-2 page summary of the reading, including your critical response to the text. I may periodically assign short homework assignments. Additionally, there will be a class blog at pollutionandhealth.tumblr.com. Over the course of the term, each student will be expected to post four articles to the blog.

-Reading/Lecture "Quests" (20%)- Not quite a reading quiz, and not quite a test...over the course of the term, there will be two "quests". These are to make sure students can define or discuss the basic principles brought up in lecture and in the readings. These exercises are much more concerned with "big picture" and analytical questions, rather than you remembering tiny details and statistics (for example: I may ask you to "define environmental justice", but not "how many tons of manganese were released in West Virginia last month?").

-Journal Club discussion facilitation (15%)- Over the course of the term, there will be five so-called "Journal Clubs". The entire class will be asked to read one or more scientific/ environmental justice journal articles related to some facet of pollution and health. During week 1, you will sign up for which class you would like to lead (~5 leaders per week). Discussion leaders will be expected to briefly summarize the reading, provide critiques of

methodology and/or theory, and facilitate a discussion of the paper with the class. Feel free to make brief handouts for classmates, or engage the class in more creative facilitation methods! Group members will evaluate each other's contributions to the facilitation. Participation in journal clubs that you are not facilitating will be a part of your participation grade.

-Living Downstream reaction paper (10%)- After reading Living Downstream, please write 3-5 pages, double-spaced about this book. Please keep summary under one page, and use the rest of the paper to discuss your personal response to the book, as well as how Steingraber tackles issues of pollution, health, and environmental justice in this book.

-Research Project (25%)- Over the course of the term, you will turn in components of a research project (proposal, annotated bibliography, rough draft, peer edit, final draft, and final presentation). This research project can be on any subject germane to the course, and should involve academic literature from pertinent disciplines of interest to you. The final product should take the form of a 7-10 page paper and ~5-7 minute in-class presentation.

Course Schedule

Date	Lecture Topic/Activity	Reading/Homework
M 9 January	<ul style="list-style-type: none"> ○ Introductions ○ Syllabus overview ○ Vote on office hours ○ What is pollution?/ Why should we care? 	
W 11 January	<ul style="list-style-type: none"> ○ Discuss news articles ○ Historical Perspectives ○ Journal club sign-up 	<ul style="list-style-type: none"> • Carson • Read a news article about pollution, summarize
M 16 January	<ul style="list-style-type: none"> ○ No Class! MLK, Jr Day! 	
W 18 January	<ul style="list-style-type: none"> ○ <u>Living Downstream</u> Discussion ○ Basic toxicology ○ Lead, asbestos, and smoking 	<ul style="list-style-type: none"> • <u>Living Downstream</u>, Foreword-Ch 3
M 23 January	<ul style="list-style-type: none"> ○ <u>Living Downstream</u> Discussion ○ Blacksmith Institute Activity ○ Workplace hazards Superfund sites 	<ul style="list-style-type: none"> • <u>Living Downstream</u>, Ch 4 & 5
W 25 January	<ul style="list-style-type: none"> ○ <u>Living Downstream</u> Discussion ○ Briefly present project proposals ○ Endocrine disruption ○ Are animal studies useful? 	<ul style="list-style-type: none"> • <u>Living Downstream</u>, Ch 6-8 • Research Project Proposal

M 30 January	<ul style="list-style-type: none"> ○ Quest #1 ○ <u>Living Downstream</u> Discussion ○ Ecological modernization theory vs treadmill of production ○ Environmental decision making 	<ul style="list-style-type: none"> • <i>Living Downstream, Ch 9-11</i>
W 1 February	<ul style="list-style-type: none"> ○ <u>Living Downstream</u> Discussion ○ Epigenetics ○ Medical research ○ The Precautionary Principle ○ US News School data 	<ul style="list-style-type: none"> • <i>Living Downstream, Ch 12- afterword</i> • Living Downstream Reaction Paper
M 6 February	<ul style="list-style-type: none"> ○ Journal Club #1: Introduction to EJ 	<ul style="list-style-type: none"> • <i>Bullard</i>
W 8 February	<ul style="list-style-type: none"> ○ <i>Fenceline</i> film and discussion 	<ul style="list-style-type: none"> • <i>Wright</i> • Research Project Annotated Bibliography
M 13 February	<ul style="list-style-type: none"> ○ Asthma & gendered activism ○ Pollution & creativity 	<ul style="list-style-type: none"> • <i>Sze</i>
W 15 February	<ul style="list-style-type: none"> ○ Journal Club #2: Pesticides & vulnerable populations 	<ul style="list-style-type: none"> • <i>Colborn</i> • <i>Page</i>
M 20 February	<ul style="list-style-type: none"> ○ Journal Club #3: Air Pollution 	<ul style="list-style-type: none"> • <i>Kampa & Castanas</i> • <i>Linn et al</i>
W 22 February	<ul style="list-style-type: none"> ○ Journal Club #4: Trash & E-waste 	<ul style="list-style-type: none"> • <i>Taylor</i> • <i>Chan et al</i>
M 27 February	<ul style="list-style-type: none"> ○ Assign peer editors, exchange rough drafts ○ Policy Analysis activity 	<ul style="list-style-type: none"> • <i>Markowitz & Rosner</i> • Research Project Rough Draft
W 29 February	<ul style="list-style-type: none"> ○ Journal Club #5: Environmental inequality & recycling ○ Discuss peer edits 	<ul style="list-style-type: none"> • <i>Pellow</i> • Research Project Peer Edit
M 5 March	<ul style="list-style-type: none"> ○ Quest #2 ○ Coal & Mountain Justice 	<ul style="list-style-type: none"> • <i>House & Howard</i> • <i>Ruhl</i>
W 7 March	<ul style="list-style-type: none"> ○ Final Presentations 	<ul style="list-style-type: none"> • Research Project Presentations
M 12 March	<ul style="list-style-type: none"> ○ Final Presentations 	<ul style="list-style-type: none"> • Research Project Presentations
W 14 March	<ul style="list-style-type: none"> ○ Cool organizations! ○ Wrap-up 	<ul style="list-style-type: none"> • <i>Martin</i> • Research Organization

****Final Research Projects due by 4 pm Thursday, 22 March in 241 Columbia****

Required Reading

Book

Steingraber, S. Living Downstream: An Ecologist Looks at Cancer and the Environment (2nd ed.). New York: Merloyd Lawrence, 2010.

Other (All Posted to Blackboard)

Bullard, RD. "Environmental Justice in the Twenty-first Century; Principles of Environmental Justice." In The Quest for Environmental Justice. San Francisco: Sierra Club Books, 2005 (19-42, 299-301).

Carson, Rachel. "The Human Price; One in Every Four." Silent Spring. Boston: Mariner, 1962 (187-198, 219- 243).

Chan JK, GH Xing, Y Xu, Y Liang, LX Chen, SC Wu, CK Wong, CK Leung, and MH Wong. "Body Loadings and Health Risk Assessment of Polychlorinated Dibenzo-P-Dioxins and Dibenzofurans at an Intensive Electronic Waste Recycling Site in China." Environmental Science & Technology. 41. 22 (2007): 7668-74.

Colborn, Theo. "A Case for Revisiting the Safety of Pesticides: a Closer Look at Neurodevelopment". Environmental Health Perspectives. 114.1 (2005): 10-17.

House, S & J Howard. "Judy Bonds: the Endangered Hillbilly". Something's Rising: Appalachians Fighting Mountaintop Removal. Lexington, Kentucky: The University Press of Kentucky, 2009 (131-150).

Kampa, M & E Castanas. "Human health effects of air pollution." Environmental Pollution. 151 (2008): 362-367

Linn WS, Y Szlachcic, Gong H Jr, PL Kinney, and KT Berhane. "Air Pollution and Daily Hospital Admissions in Metropolitan Los Angeles." Environmental Health Perspectives. 108. 5 (2000): 427-34.

Markowitz, G & D Rosner. "A Hazy Mixture: Science, Civil Rights, Pollution and Politics." Deceit and Denial. Los Angeles: University of California, 2002 (263-286).

Martin, CE. "It Ain't Easy Being Green." Do It Anyway. Boston: Beacon Press, 2010 (90-109)

Page, SL. "Rural mothers with HIV: Eliminating Pesticide Exposure." In Silent Invaders, Jacobs M & B Dinham, eds. New York: Zed Books, 2003 (48-57).

Pellow, DN. "Environmental Inequality Formation." American Behavioral Scientist. 43. 4 (2000): 581-601.

Ruhl L, A Vengosh, GS Dwyer, H Hsu-Kim, A Deonarine, M Bergin, and J Kravchenko. "Survey of the Potential Environmental and Health Impacts in the Immediate Aftermath of the Coal Ash Spill in Kingston, Tennessee." Environmental Science & Technology. 43. 16 (2009): 6326-33.

Sze, J. "Gender, Asthma Politics, and Urban Environmental Justice Activism." In New Perspectives on Environmental Justice: Gender, Sexuality, and Activism, Stein R, ed. New Brunswick, New Jersey: Rutgers University Press, 2004 (177-190).

Taylor, D. "Talking Trash: the Economic and Environmental Issues of Landfills." Environmental Health Perspectives. 107. 8 (1999): A404-A409.

Wright, B. "Living & Dying in Louisiana's 'Cancer Alley'." In The Quest for Environmental Justice, Bullard, RD, ed. San Fransisco: Sierra Club Books, 2005 (87-107).