

# Environmental Risk and Society

ENVH 472

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Dept of Environmental & Occupational Health Sciences  
Health Sciences, F-226A (543-0916)  
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Office Hours: to be arranged

Spring 2008  
3 credits  
MWF, 10:30-11:20  
Health Sciences, T-635

## Course Description

This course will examine the development and current uses of environmental risk analysis, particularly in regard to public health concerns. Environmental risk analysis is practiced within a context of social and cultural values, leading to differing perceptions, rankings of risks, and challenges in effective risk communication. Risk assessment and risk management procedures will be examined in light of several themes, including the relationship between natural and technological hazards, the long-term consequences of environmental contamination, public participation processes, and movements towards environmental equity. Specific topics to be addressed include pesticides, mercury, dioxins, PCBs, and lead.

## Learning Objectives

- develop a basic understanding of components of current risk assessment and risk management procedures used for environmental health hazard evaluation and resolution;
- demonstrate an understanding of how social and cultural values shape perceptions and communication of environmental risks;
- identify the key aspects public participation processes aimed at resolving environmental risk conflicts;
- apply critical thinking to emerging issues in environmental risk;
- demonstrate "environmental literacy" by being able to evaluate and interpret news media reports of environmental health risk issues.
- apply risk assessment principles to a specific environmental health risk controversy;

## Readings (books available at UW Bookstore in the South Campus Center)

- *Mad Cows and Mother's Milk* (Powell) McGill-Queens University Press, 2<sup>nd</sup> Ed., 2005
- *Calculated Risks*, JV Rodricks Cambridge University Press, Second Edition, 2007

## Assignments and Examinations

- written assignment and presentation – individual/team project (30%)
- midterm exam (25%) and final exam (35%)
- homework (10%)

## Students with Disabilities

To request academic accommodations due to a disability, please contact Disabled Student Services, 448 Schmitz, 206-543-8924 (voice/TTY). If you have a letter from Disabled Student Services indicating that you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need in this class.

## Environmental Risk and Society

Date	Instructor	Topic	Readings	
<i>March</i>				
31	M	Fenske	Environmental Health Risks	Handout
<i>April</i>				
2	W	Fenske	Chemical Exposures	Rodricks, prologue, 1-2
4	F	Fenske	Exposure and the NCS (discussion)	Needham
7	M	Fenske	Health Effects	Rodricks, 3-4
9	W	Fenske	Cancer Risks	Rodricks, 5-6
11	F	Fenske	Neurologic Effects (discussion)	Aldridge
14	M	Fenske	Risk Assessment	Rodricks, 7-9
16	W	Fenske	Risk Perception	Leiss, 2
18	F	Murphy	Risk Communication	Handout
21	M	Fenske	Risk Management	Rodricks, 11
23	W	Fenske	Proposition 65	Handout
25	F	Fenske	Risk Trade-offs (discussion)	Reader: Gregory
28	M	Fenske	Project Discussion Breakout	
30	W	Fenske	Pesticide Risk Assessment	Handout
<i>May</i>				
2	F	Fenske	Pesticide Risks: Alar Case Study	Video/Handout
5	M	Finsness	Health Risks of the Built Environment	Handout
7	W	Fenske	Dioxins: Overview	Leiss, 3:41-55
9	F	Fenske	Dioxins: Risk Communication	Powell, 3:55-72
12	M	Fenske	<i>Veterans' Day Holiday</i>	
14	W	Fenske	Dioxins and Agent Orange	Handout
16	F	Fenske	PCBs and Risk Communication	Leiss, 8:182-198
19	M	Fenske	PCBs and Mother's Milk	Leiss 8:198-209
21	W	Fenske	Lead Exposure Pathways	Handout
23	F	Fenske	Health Effects of Lead	Reader: Needleman
26			<i>Memorial Day Holiday</i>	
28	W	Fenske	Project Discussion Breakout	
30	F	Fenske	Mad Cow Disease - 1	Leiss, 1:3-25
<i>June</i>				
2	M	Fenske	Mad Cow Disease – 2	Handout
4	W	Fenske	Student Case Reports -- 1	
6	F	Fenske	Student Case Reports – 2	
<i>FINAL EXAM</i>				

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### SUPPLEMENTAL READINGS

#### Natural and Technological Hazards

Melius JM (1998) The Bhopal Disaster. Chapter 91 in WN Rom (ed.) *Environmental and Occupational Medicine*, 3rd edition, Little Brown and Company, Boston (pp. 1231-1244).

Huddle N, Reich M, Stiskin N (1987) Tragedy at Minamata. Chapter 4 in *Island of Dreams: Environmental Crisis in Japan*, Schenkman Books, Rochester VT (pp. 102-132).

#### Environmental Risk Analysis

Gregory R, Lichtenstein S (1994) A Hint of Risk: Tradeoffs between Quantitative and Qualitative Risk Factors. *Risk Analysis*, 14:199-206.

#### PCBs

Koppe JG, Keys J (2001). PCBs and the precautionary principle. Chapter 6 in *Late Lessons from Early Warnings: The Precautionary Principle 1896-2000*. European Environment Agency, Environmental Issue Report No. 22.  
[http://reports.eea.eu.int/environmental\\_issue\\_report\\_2001\\_22/index.html](http://reports.eea.eu.int/environmental_issue_report_2001_22/index.html)

#### Lead

Needleman HL (1979) Deficits in psychologic and classroom performance of children with elevated dentine lead levels. *New England Journal of Medicine*, 300:689-695.

#### Mad Cow Disease

van Zwanenberg P, Millstone E (2001). 'Mad cow disease' 1980s-2000: how reassurances undermined precaution. Chapter 15 in *Late Lessons from Early Warnings: The Precautionary Principle 1896-2000*. European Environment Agency, Environmental Issue Report No. 22.  
[http://reports.eea.eu.int/environmental\\_issue\\_report\\_2001\\_22/index.html](http://reports.eea.eu.int/environmental_issue_report_2001_22/index.html)