

# Course Syllabus

Visiting professor : Rose H Goldman

Course	Environmental / Occupational Health		
Credit	1	Method of Teaching	Lecture, Discussion and Case Studies
<p><b>Objective</b></p> <p>At the end of the course the student will be able to:</p> <ol style="list-style-type: none"> <li>1. Describe how human impacts on the environment, both local and global, contribute to promoting health and/or causing illness</li> <li>2. Describe and apply basic concepts of toxicology, exposure assessment, environmental epidemiology, risk assessment/risk management, health impact assessment/life cycle analysis and injury analysis in order to evaluate, and develop a plan for decision-making involving human health effects related to acute and chronic exposures involving major environmental and occupational hazards, such as air pollution, metals, drinking water, physical hazards (such as injuries), and climate change.</li> <li>3. Describe how factors (such as age, disproportional exposures, socio-economic status, cigarette smoking, and nutrition) can modify the impact of environmental and occupational hazards on a population</li> </ol>			
<p><b>Outline</b></p> <p>As countries face growing energy needs and increasing concerns about the effects of climate change, greater attention is being paid to the environmental factors that detract, or enhance, human health. This course provides an introduction to environmental health, so that students can describe and apply basic concepts of toxicology, exposure assessment, environmental epidemiology, risk assessment/risk management, health impact assessment/life cycle analysis and injury analysis, to the evaluation and decision-making related to issues such as air pollution, drinking water, occupational hazards, injuries, built environment/energy choices and climate change. The course also illustrates some of the inter-relationships between local and global effects, as well as the role of other factors (such as age, disproportionate exposures, socio-economic factors, cigarette smoking, etc.) in modifying the impact of environmental and occupational hazards on a population.</p>			
<p><b>Class Schedule (90 minutes each)</b></p> <p><b>Session 1 (Monday, January 16, 9:00-10:30) Overview and Introduction to Environmental Health</b></p> <p>Case Study # 1 – Pregnant woman, fish and mercury: Part 1: Why mercury in fish?</p> <p><b>Session 2 (Monday, January 16, 10:45-12:15) Toxicology: basic principles</b></p> <p>Case Study #2- Pregnant woman, fish and mercury: Part 2</p> <p><b>Session 3 (Tuesday, January 17, 9:00-10:30) Environmental Epidemiology and Air Pollution</b></p> <p>Case Study #3: PM2.5 levels in different locations, impact on mortality, sources and prevention strategies</p> <p><b>Session 4 (Tuesday, January 17, 10:45-12:15) Risk Assessment and policy decisions</b></p> <p>Case Study #4 Pregnant woman, fish and mercury: Part 3: balancing toxic effects of mercury vs health effects of fish consumption</p>			

**Session 5 (Wednesday, January 18, 9:00-10:30) Water and Sanitation**

Case Study # 5: Water and Health—case study in Bangladesh

**Session 6 (Wednesday, January 18, 10:45-12:15) Occupational Health; Introduction to Injury Prevention**

Case Study #6: Injury case analysis using Haddon's Matrix

**Session 7 (Thursday, January 19, 9:00-10:30) Built Environment and Energy Choices**

Case Study #7 : Use a life cycle/health impact approach to look at the pros and cons of different energy sources  
Also, Ecological Foot print calculation

**Session 8 (Thursday, January 19, 10:45-12:15)**

Case Study #8 Climate Change and Health Effects

**Examination (Thursday, January 19, 2017):** (15.00-16.00pm)

*We may add seminars by Japanese teachers for each to assist students with difficulty in language/background knowledge.*

**Text**

Frumkin H, Editor. Environmental Health: From Global to Local. San Francisco: Jossey-Bass, 2016

**Related readings**

Will be made available in advance of the lecture. Textbook in own language may help understanding.

**Achievement evaluation**

There will be a written final exam after the completion of the course. Participation of the class in discussion will be appreciated.