Course Syllabus

Visiting professor : Rose H. Goldman

Course	Environmental / Occupational Health		
Credit	1	Method of Teaching	Lecture, Discussion and Case Studies

Objective

At the end of the course the student will be able to:

1. Describe how human impacts on the environment, both local and global, contribute to promoting health and/or causing illness.
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), energy choices and climate change/climate crisis..
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

Outline

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, and most recently the climate crisis.. 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.

Class Schedule (90 minutes each)

Session 1 (Friday, January 24 (9:00-10:30) Overview and Introduction to Environmental Health

Small Group Session: Individuals identify environment issue and question of interest to themselves or location

Session 2 (Friday, January 24: (10:45-12:15) Pathways & Measurement of exposures; toxicological principles

Small Group Session: Case-- Pregnant woman, fish and mercury

Session 3 (Friday, January 24: (13:30-15:00) Environmental Epidemiology and Air Pollution

Small Group Session: PM2.5 levels in different locations, impact on mortality, sources and prevention strategies

Session 4 (Saturday, January 25 , 9:00-10:30) Approaches to risk assessment: toxicant risks assessment, life cycle, health impact assessment

Small Group Session: Individual question project: gather more information; approach to decision making?

Session 5 (Saturday, January 25, 10:45-12:15) Occupational Health; Introduction to Injury Analysis and Prevention

Small Group Session: Case: Injury case-application of Haddon's Matrix

Session 6 (Saturday, January 25, 13:30-15:00) Water and Sanitation

Small Group Session: Water and Health—case study in Bangladesh

Session 7 (Sunday, January 26, 9:00-10:30) Built Environment and Energy Choices

Small Group Session : Use a life cycle/health impact approach to look at the pros and cons of different energy sources

Session 8 (Sunday, January 26, 10:45-12:15) : The Climate Crisis and Health Effects

Presentations from Individuals or Small Groups

Examination (Sunday, January 26, 2017): (13:30-14:30)

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

Text – can use as a reference

Essentials of Environmental Health, Third Edition, by Robert H. Friis, 2019; publisher: Jone & Bartlett

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.