

Course Syllabus

Visiting professor : Philippe Grandjean

Course	Occupational and Environmental Health		
Credit	1	Method of Teaching	Lecture, Discussion and Case Studies
Objective At the end of the course the student will be able to: <ol style="list-style-type: none"> 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), and climate change. 3. Describe how factors (such as age, genetic predisposition, 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. 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, genetic predisposition, 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) <u>Day 1 (Monday, January 21, 2019)</u> Preparatory session 1 (9:00-10:30am) (By assistant faculty) Preparatory session 2 (10:45-12:15pm) (By assistant faculty) <u>Day 2 (Tuesday, January 22, 2019)</u> Session 1 Exposure Assessment (9:00-10:30am) Case Study # 1 – Developmental exposure to methylmercury Session 2 Target Organs (10:45-12:15pm) Case Study #2- Chemical brain drain Session 3 Physiological vulnerability (13:05-14:30am) Case Study #3: The DOHaD paradigm			

Day3 (Wednesday, January 23, 2019)

Session 4 Evidence Evaluation (9:00-10:30pm)

Case Study #4 PFAS toxicity

Session 5 Globalization Challenges (10:45-12:15am)

Case Study # 5: Promises and threats associated with globalization

Session 6 Weight of the Evidence (13:05-14:35pm)

Case Study #6: The precautionary principle in decision-making and in science

Day4 (Thursday, January 24, 2019)

Session 7 Science Translation (9:00-10:30am)

Case Study #7 : Ivory-tower and advocacy

Session 8 Setting Priorities (10:45-12:15pm)

Case Study #8 Economics and ethics considerations

Examination (Thursday, January 24, 2019): (14:00-15:00pm)

We may add group work and 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: Wiley, 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.