

ENV-468

Occupational and environmental health

Vernez David

Cursus	Sem.	Type
Environmental Sciences and Engineering	MA1, MA3	Opt.
Territories in transformation and climate minor	H	Opt.
Urban Planning and Territorial Development minor	H	Opt.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	Oral
Workload	90h
Weeks	14
Hours	3 weekly
Lecture	2 weekly
Exercises	1 weekly
Number of positions	

Summary

This course looks at the relationship between our environment - both professional and general - and our health. What hazards are associated with physical, chemical and biological pollutants? How can we assess the risks and prevent them? What health issues are associated with climate change?

Content

This course covers the various stages of risk assessment (identification, evaluation, control) for pollutants frequently encountered in occupational and environmental environments. The properties of these pollutants, their pathways of entry or interaction with the body, their effects, their measurement, and the adequate control/prevention strategies are discussed over the course of the semester. Four main categories of pollutants are covered:

- Chemical (gases, vapors, liquids)
- Physical (noise, vibrations, thermal environment, non-ionizing radiation)
- Physico-chemical (particles, fibers)
- Biological (bacteria, viruses, molds)

At the end of the semester, two cross-disciplinary subjects will be covered, drawing on the concepts covered earlier: the health effects of global warming, and the issue of environmental interventions (interventions in situations of environmental contamination/pollution).

Keywords

Risk assessment, work environment, environmental health, occupational health, exposure sciences, physical, chemical, biological pollutants

Learning Prerequisites**Required courses**

None

Recommended courses

Environmental chemistry, Analysis of pollutants in the environment, Analysis and management of industrial risks, Ecotoxicology

Important concepts to start the course

Understanding the physical and chemical properties of pollutants.

Learning Outcomes

By the end of the course, the student must be able to:

- Identify the risks associated with pollutants in the environment
- Characterize the different types of pollutants and their properties
- Use simple risk assessment tools and methods
- Select appropriately appropriate skills or methods to manage a particular risk
- Identify occupational and environmental health issues within public health

Transversal skills

- Make an oral presentation.
- Demonstrate the capacity for critical thinking

Teaching methods

Ex cathedra lectures and group exercises and presentations

Expected student activities

Participate in the course and exercise session
Prepare and present a case study of a practical problem

Assessment methods

Presentation of a case study during the semestre (1/3)
Oral exam (2/3)

Supervision

Office hours	Yes
Assistants	No
Forum	Yes

Resources

Bibliography

The Occupational Environment: its evaluation, control and management. 3rd ed. AIHA Press. 2011.
Environnement et santé publique: fondements et principes. 2nd ed. Presses de l'EHESP, 2023

Ressources en bibliothèque

- [The Occupational Environment: its evaluation, control and management. 3rd ed. AIHA Press. 2011](#)
- [Environnement et santé publique: fondements et pratiques, Presses de l'EHESP, 2023](#)

Notes/Handbook

The Occupational Environment / DiNardi
Handout notes (available on Moodle in pdf)

Moodle Link

- <https://go.epfl.ch/ENV-468>