

ENV-468

**Occupational and environmental health**

Vernez David

<b>Cursus</b>	<b>Sem.</b>	<b>Type</b>
Environmental Sciences and Engineering	MA1, MA3	Opt.

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

**Summary**

The quality of our environment - occupational and general - is an important determinant of our health. This course reviews the physical, chemical and biological pollutants present in our environment and the risks associated with them.

**Content****Chemical pollutants**

Properties, inhalation, skin passage, distribution in the body  
Exposure assessment, measurement strategies and methods, control or reduction strategies

**Physical agents**

Noise, vibration, thermal environment, non-ionizing radiation  
Exposure assessment, measurement methods, control or reduction strategies

**Physical and chemical pollutants**

Properties of dusts and fibers, inhalation, aerodynamic behavior  
Measurement and sampling methods, control or reduction strategies

**Biological risks**

Biological agents, properties, risk situation  
Measurement and sampling methods

**Climate and health**

Health effects related to global warming, vectors of infectious transmissions, heat stress

**Environmental interventions**

Risk assessment and monitoring of contamination/pollution situations

**Keywords**

Risk assessment, work environment, environmental health, occupational hygiene, 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**

## 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. 2nd ed. Di Nardi. AIHA Press. 2003.

Environnement et santé publique: fondements et principes. Gérin, M. 2003

#### Ressources en bibliothèque

- [Di Nardi. The Occupational Environment: its evaluation, control and management \(1997\)](#)

#### Références suggérées par la bibliothèque

- [Gérin. Environnement et santé publique: fondements et principes. 2005](#)

#### Notes/Handbook

The Occupational Environment / DiNardi

Handout notes (available on Moodle in pdf)

#### Moodle Link

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