

# ENVIRONMENTAL POLLUTANTS

**LEVEL:** MASTER 1

**PERIOD:** SEMESTER 1

**LANGUAGE:** EN

**ECTS:** 3

**TEACHER/COORDINATOR:** JULIEN CASTELIN



*It is highly recommended to take this course with Pollutant Behavior and Toxicology-Ecotoxicology*

## 1-Main objectives

- › Understand the main issues linked with contaminated areas and the main challenges to face
- › Know the major pollutants in the environment
- › Learn the main characteristics of such pollutants

## 2-Skills developed

- › Be able to identify links between activities and pollution
- › Practice collaborative group work: work, oral presentation, written report

## 3-General content

The physical environment of Western countries (air, water and soil) has been affected by a wide range of pollutants for centuries. Localized pollution from anthropogenic sources has been observed since the time of the Roman Empire. However, extensive pollution of the environment was a characteristic of the industrial revolution and major and widespread impacts have been observed throughout the nineteenth and twentieth centuries. Contaminated sites are the legacy of a long period of industrialization involving inconsiderate production and handling of hazardous substances and inadequate dumping of wastes. The expansion of industry and the increasing amount of industrial wastes have led to considerable environmental problems that apply in all industrialized countries. Nowadays, developing countries have to face the same problems.

This course will provide basic knowledge on main pollutants and their sources. Focus on specific pollutants and specific issues worldwide will be addressed as well.

## 4- Evaluation

Students will have to work both on a group project and an individual project:

- **Group Project:** students will have to identify on their own pollution and pollutants associated with activities they will discover during on field visits. A written report will have to be realized.

- **Individual Project:** students have to work individually on a specific project:

- › introducing the problem of soil and/or water pollution in their own country: students must focus on some typical pollution or areas with specific problems;
- › or exploring an existing management situation of a polluted area (case study) in their own country.

Each student will have the opportunity to **present his work in front of the class**, based on a PowerPoint presentation. Finally, an **individual written exam** will be organized to verify acquisition of the essentials of the teaching unit.