

## Course G1468: ENVIRONMENTAL ENGINEERING

### GENERAL INFORMATION

Spring Semester  
6 ECTS credits

### INSTRUCTOR(S)

AMAYA LOBO GARCÍA DE CORTÁZAR ([loboa@unican.es](mailto:loboa@unican.es)). Profesora Contratado Doctor.  
Departamento de Ciencias y Técnicas del Agua y del Medio Ambiente. Universidad de Cantabria

ANA LORENA ESTEBAN GARCÍA ([estebana@unican.es](mailto:estebana@unican.es)). Profesora Asociada. Departamento de  
Ciencias y Técnicas del Agua y del Medio Ambiente. Universidad de Cantabria

### Description

The course provides the students with the basic knowledge to understand and solve Environmental Engineering issues. It introduces the basic biological, chemical and physical processes of relevance in the field, stressing the mass balance and transport concepts. These principles are analyzed and applied to the main areas of Environmental Engineering: air and noise pollution, solid waste management, water treatment, water quality and wastewater treatment.

### TEXTBOOK

**Textbook:** *Introduction to Environmental Engineering*. David A. Cornwell and Mackenzie L. Davis.

### SYLLABUS

1. Introduction to environmental engineering
2. Materials balances
3. Air and Noise pollution
4. Introduction to Solid Waste Management
5. Solid waste collection and transport
6. Treatment and Disposal of Solid Waste
7. Introduction to water treatment
8. Coagulation. Flocculation
9. Sedimentation
10. Filtration. Disinfection
11. Introduction to water quality
12. Water pollution in rivers
13. Water pollution in lakes, estuaries and aquifers
14. Introduction to Wastewater Treatment
15. Primary treatment. Secondary treatment
16. Sludge treatment and disposal