# SUBJECT TEACHING GUIDE

## G1468 - Environmental Engineering

## BILINGUAL UC-CU CIVIL ENGINEERING PROGRAM

Academic year 2025-2026

| 1. IDENTIFYING DATA | | | | | |
|---|---|---|---|---|---|
| Degree | BILINGUAL UC-CU CIVIL ENGINEERING PROGRAM | | | Type and Year | Optional. Year 1 |
| Faculty | School of civil Engineering | | | | |
| Discipline | Optional Subjects | | | | |
| Course unit title and code | G1468 - Environmental Engineering | | | | |
| Number of ECTS credits allocated | 6 | Term | | Semester based (2) | |
| Web | | | | | |
| Language of instruction | English | English Friendly | No | Mode of delivery | Face-to-face |

| | |
|---|---|
| Department | DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE |
| Name of lecturer | AMAYA LOBO GARCIA DE CORTAZAR |
| E-mail | amaya.lobo@unican.es |
| Office | E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO (2028) |
| Other lecturers | ANA LORENA ESTEBAN GARCIA |

| 3.1 LEARNING OUTCOMES |
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| - To understand environmental issues. |
| - To understand and assess water quality analysis with regard to environmental rules and laws. |
| - To estimate water demand and design flows for different sanitary facilities. |
| - To estimate flow and pollution of wastewater discharges. |
| - To estimate municipal solid waste generation and characteristics. |
| - To assess the impact of wastewater discharges into rivers. |
| - To perform basic laboratory analysis of water quality and wastewater pollution parameters. |
| - To design basic processes for wastewater treatment. |
| - To select processes for basic wastewater treatment systems, |
| - To design basic processes for water treatment. |
| - To select processes for basic water treatment systems. |
| - To design basic solutions for solid waste management. |
| - To select solutions for basic solid waste management systems. |
| - To assess the operation of basic water treatment processes. |
| - To assess the operation of basic wastewater treatment processes. |

| 4. OBJECTIVES |
|---|
| To define and use environmental engineering principles, especially with regard to air and noise pollution and control, water quality and treatment and solid waste management. |
| To apply mass balance to analyze environmental systems. |
| To apply legislation in the fields of air and noise pollution control, water quality and treatment, wastewater treatment and solid waste management. |
| To assess water pollution and quality in rivers matters. |
| To suggest and design conventional water treatment systems. |
| To suggest and design conventional wastewater treatment systems. |
| To suggest and design basic solutions for solid waste management. |

| 6. SUBJECT PROGRAM | |
|---|---|
| CONTENTS | |
| 1 | Fundamentals of Environmental Engineering |
| 2 | Air and noise pollution |
| 3 | Solid waste management |
| 4 | Water Treatment |
| 5 | Water quality |
| 6 | Wastewater Treatment |

## 7. ASSESSMENT METHODS AND CRITERIA

| Description | Type | Final Eval. | Reassessn | % |
|---|---|---|---|---|
| Homework + Short quizzes | Others | No | No | 10,00 |
| Lab practices and technical visits | Laboratory evaluation | No | No | 20,00 |
| Preliminar exam 1 | Written exam | No | Yes | 25,00 |
| Preliminar exam 2 | Written exam | No | Yes | 25,00 |
| Preliminar exam 3 | Written exam | Yes | Yes | 20,00 |
| TOTAL | | | | 100,00 |

### Observations

Regarding those evaluation activities that the students can resit, the following general criteria were adopted at the regular meeting of the Civil Engineering School Board held on June 10, 2010:
. A student can only resit an evaluation activity that has not passed (i.e. a grading lower than 5 out of 10).
. The evaluation activity in the resitting period will follow the same procedure and will have the same guidelines as in the ordinary period.
Note:
According to Spanish regulations (RD 1125/2003) about the European credit system and the grading system for University degrees, each course will be graded using a linear scale between 0 and 10 with a precision of a decimal. According to that grading, a qualitative rating may be added:
0.0-4.9: Suspenso (SS). Fail
5.0-6.9: Aprobado (AP). Satisfactory
7.0-8.9: Notable (NT). Good
9.0-10: Sobresaliente (SB). Excellent
9.0-10: Matrícula de Honor (MH). Outstanding (with honours)

### Observations for part-time students

The assessment of part time students includes the lab practices and technical visits, which weigth 20% of the final grade, the practical cases proposed as homework throughout the course (10% of the final grade) and a final exam, which includes all the blocks of the subject and weights 70% of the final grade.

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

Davis M.L. & Cornwell D.A. (2023) INTRODUCTION TO ENVIRONMENTAL ENGINEERING. McGraw-Hill LLC. Sixth Edition. ISBN 978-1-260-59802-5. Nueva York. https://catalogo.unican.es/cgi-bin/abnetopac/O7303/ID2e3015da/NT1