

SUBJECT TEACHING GUIDE

G1468 - Environmental Engineering

BILINGUAL UC-CU CIVIL ENGINEERING PROGRAM

Academic year 2023-2024

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	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.lope@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

- 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. COURSE ORGANIZATION

CONTENTS	
1	Fundamentals of Environmental Engineering Introduction to Environmental Engineering Materials Balances
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	20,00
Lab practices and technical visits	Laboratory evaluation	No	No	10,00
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				
<p>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:</p> <ul style="list-style-type: none"> . 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. <p>Note:</p> <p>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:</p> <ul style="list-style-type: none"> 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				
<p>The assessment of part time students includes the lab practices and technical visits, which weigh 10% of the final grade, and a final exam, which includes all the blocks of the subject and weights 90% of the final grade.</p>				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
<p>Davis M.L. y Cornwell D.A. (2013) INTRODUCTION TO ENVIRONMENTAL ENGINEERING. McGraw-Hill International Edition. ISBN 0071326243. Singapur. http://catalogo.unican.es/cgi-bin/abnetopac/?TITN=34627</p>