

SUBJECT TEACHING GUIDE

G1156 - Coastal Engineering

Degree in Civil Engineering

Academic year 2021-2022

1. IDENTIFYING DATA			
Degree	Degree in Civil Engineering	Type and Year	Optional. Year 4
Faculty	School of civil Engineering		
Discipline	Subject Area: Hydraulic Engineering Optional Subjects: Other Specialities 1 Optional Subjects: Other Specialities 3		
Course unit title and code	G1156 - Coastal Engineering		
Number of ECTS credits allocated	6	Term	Semester based (1)
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	MARIA SONIA CASTANEDO BARCENA
E-mail	sonia.castanedo@unican.es
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. DESPACHO MARIA SONIA CASTANEDO BARCENA (0048)
Other lecturers	FERNANDO JAVIER MENDEZ INCERA

3.1 LEARNING OUTCOMES

- To know the coastal area as one of the civil engineering projects target
- To understand the most relevant dynamics and physical processes that play a rol in the design , project, construction and exploitation of coastal structures, as well as the affection to coastal morphodynamics and coastal risks .
- To know the pressures that the coast undergoes and to introduce concepts of integrated coastal zone management .
- To know and to classify different typologies of coastal structures , according to criteria of functionality and stability.
- To evaluate the impact of different coastal engineering activities.
- To understand the coastal risks and the methodologies for coastal risk assessment.

4. OBJECTIVES

To know the coastal area as one of the civil engineering projects target . To understand the most relevant dynamics and physical processes that play a rol in the design, project, construction and exploitation of coastal structures, as well as the affection to coastal morphodynamics and coastal risks To know the stressors that affect the coastal area and to introduce concepts of integrated coastal zone management . To know and to classify different typologies of coastal structures , according to criteria of functionality and stability. To evaluate the impact of different coastal engineering activities and to understand the coastal risks and the methodologies for coastal risk assessment.

6. COURSE ORGANIZATION

CONTENTS	
1	Introduction. Course overview. Short gravity waves
2	Wind waves
3	Long-term wave statistics
4	Wave propagation
5	Long waves
6	Design of coastal structures
7	Rubble mound breakwaters
8	Vertical breakwaters
9	Estuarine processes
10	Estuarine engineering
11	Beach processes
12	Beach engineering
13	Coastal risk management
14	Marine climate. Data bases
15	Test

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Tests with theoretical and practical questions	Written exam	Yes	Yes	30,00
Group exercises	Work	No	No	40,00
Tests with theoretical and practical questions	Written exam	No	Yes	30,00
TOTAL				100,00
Observations				
0,0-4,9: Suspenso (SS). 5,0-6,9: Aprobado (AP). 7,0-8,9: Notable (NT). 9,0-10: Sobresaliente (SB).				
Observations for part-time students				
Part-time students will have to pass the exams and deliver the required homework.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
Presentaciones en power point de la asignatura
Kamphuis, J.P. (2000). Introduction to Coastal Engineering and Management. Advances Series on Ocean Engineering, Vol. 16. World Scientific.