SUBJECT TEACHING GUIDE

M1454 - Oceanographic Engineering

Master's Degree in Civil Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Master's Degree in Civil Engineering			Type and Year	Compulsory. Year 1
Faculty	School of civil Engineering				
Discipline	Oceanographic and Coastal Engineering				
Course unit title and code	M1454 - Oceanographic Engineering				
Number of ECTS credits allocated	4,5	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE
Name of lecturer	IÑIGO LOSADA RODRIGUEZ
E-mail	inigo.losada@unican.es
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. DESPACHO (0049)
Other lecturers	CESAR VIDAL PASCUAL

3.1 LEARNING OUTCOMES
- To know and characterize the coastal environment as one of the action fields of civil engineering
- To understand and model the most relevant dynamics that affect the design, planning, construction and operation of infrastructure on the coast, its link to the coast morphodynamics and the risks that can be derived from its impact on the coast.
- To know and classify the infrastructure types, coastal and maritime works and structures that can be built in the coast according to their functionality and stability.
- To classify, characterize and model the failure modes of maritime works and learn to make probabilistic design considering the risk using different methods, according to the recommendations of Spanish maritime Works.

4. OBJECTIVES

To acquire knowledge and skills that allow the students to understand the dynamic nature of the coastal ocean-atmosphere-coast environment and to carry out studies and marine works projects.

6. COURSE ORGANIZATION

CONTENTS	
1	Introduction
2	Observation and climate data basis
3	Preliminary concepts
4	Short-term wave analysis
5	Long term maritime climate
6	Wave mechanics
7	Wave propagation
8	Long waves and sea water level
9	Surf zone hydrodynamics
10	Review

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First partial exam	Written exam	No	Yes	30,00
Second partial exam	Written exam	No	Yes	30,00
Final exam	Written exam	Yes	Yes	40,00
Laboratory	Laboratory evaluation	No	No	0,00
TOTAL				100,00

Observations

The final exam will include the opportunity to retake the two first classroom tests (60% of the grade) for students who failed them. The final exam (40%) will include problems solving. The laboratory grade will be added to the final grade for students scoring a 5 as the sum of the classroom tests and the final exam. The amount to be added is a 5% of the grade obtained in the laboratory work.

Observations for part-time students

Non full-time students may take the classroom tests and final exam as any other full time student

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Apuntes distribuidos por los profesores.
No se incluye ningún libro por no haber libros disponibles en español. Cualquiera de los dos libros en inglés que se incluye en la bibliografía complementaria son adecuados para seguir el curso