

## SUBJECT TEACHING GUIDE

### 614 - Off-Shore Engineering

#### Master's Degree in civil Engineering, Canal and Port Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Master's Degree in civil Engineering, Canal and Port Engineering			Type and Year	Optional. Year 2
Faculty	School of civil Engineering				
Discipline	SPECIALITY IN WATER, ENERGY AND THE ENVIRONMENT				
Course unit title and code	614 - Off-Shore Engineering				
Number of ECTS credits allocated	3	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE				
Name of lecturer	MELISA MENENDEZ GARCIA				
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Other lecturers	RAÚL GUANCHE GARCÍA				

### 3.1 LEARNING OUTCOMES

- Estimation of the forces acting and the response on offshore structures .
- Identify the different anchoring and foundation systems for offshore structures .
- Evaluate the source of renewable energy from the ocean environment and identify the different systems for its use and their environmental implications.

#### 4. OBJECTIVES

- Knowledge of the historical development of offshore structures .
- Add the skill to be able to calculate the forces acting on offshore structures .
- Be able to calculate the response of floating offshore structures .
- To know the different anchoring and foundation systems for offshore structures
- Evaluation of the renewable energy resources of the ocean environment.
- Knowledge of the different systems for harnessing ocean energy resources and their environmental implications .

#### 6. SUBJECT PROGRAM

##### CONTENTS

1	Historical development of offshore structures
2	Description and assessment of loads on marine structures
3	Dynamic response of floating structures
4	Design of fixed offshore structures
5	Design of floating offshore structures
6	Assessment of energy resources in the marine environment
7	Renewable energy harvesting systems from the ocean

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Test exams	Activity evaluation with Virtual Media	No	Yes	40,00
Exercises	Others	No	Yes	40,00
Oral presentation	Oral Exam	No	No	20,00
<b>TOTAL</b>				<b>100,00</b>

##### Observations

##### Observations for part-time students

The same assessment criteria apply to part-time students as to full-time students.

The distribution of activities will be adapted to the particular conditions of each student when deemed necessary.

In accordance with the regulations of the evaluation processes, included and regulated in the regulations of academic management of the University of Cantabria, students will have the same evaluation criteria as full-time students. University of Cantabria, students enrolled part-time may be subject to a single assessment process consisting of a written examination which will consist of a written examination of the subject as a whole on the date established for this purpose by the school management. school.

Students enrolled part-time must, at the beginning of the course, inform the lecturer responsible in writing of the assessment option they wish to follow. the assessment option he/she wishes to follow, continuous assessment or single assessment.

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

S.K. Chakrabarti. Handbook of Offshore Engineering. Elsevier, 2005.

