GUÍA DOCENTE ABREVIADA DE LA ASIGNATURA

M1464 - Design of Offshore Maritime Structures

Máster Universitario en Ingeniería de Caminos, Canales y Puertos

Curso Académico 2019-2020

1. DATOS IDENTIFICATIVOS				
Título/s	Máster Universitario en Ingeniería de Caminos, Canales y Puertos		Tipología y Curso	Optativa. Curso 2
Centro	Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos			
Módulo / materia	FORMACIÓN OPCIONAL ITINERARIO DE FORMACIÓN OPCIONAL			
Código y denominación	M1464 - Design of Offshore Maritime Structures			
Créditos ECTS	3	Cuatrimestre	Cuatrimestral (2)	
Web				
Idioma de impartición	Inglés		Forma de impartición	Presencial

Departamento	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE
Profesor responsable	CESAR VIDAL PASCUAL
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Otros profesores	

3.1 RESULTADOS DE APRENDIZAJE
- To know the historical development of offshore structures
- To know and to be capable of calculating the forces acting on offshore structures
- To know and to be capable of calculating the response of floating offshore structures
- To know the different systems for anchoring and foundation of offshore structures
- To be capable of evaluating the renewable energy resource of the ocean environment
- To know the different systems to harvest the ocean energy resource and their environmental implications

4. OBJETIVOS

The general objective of the course is to provide the student the knowledge to be able to know the fundamentals of the design of offshore structures and their applications.

The specific objectives are:

- To know the different offshore structures typologies and their application range.
- To know and evaluate the loads acting on fixed and floating offshore structures
- To know and evaluate the responses of fixed and floating offshore structures under the loads
- To know the existing normative for the design of offshore structures
- To know the capabilities of the existing numerical models available for loads and responses of offshore structures
- To know the design basics of the different offshore structures types: fixed and floating (GBF, FPSO, Semisub, TLP and SPAR)
- To know the basics of the construction, installation and mooring of offshore structures
- To know the marine renewable sources and the methodologies for evaluation and exploitation

6. ORGANIZACIÓN DOCENTE

	CONTENIDOS
1	Historical Development of Offshore Structures
2	Partial quizz
3	Description and Evaluation of Loads on Offshore Structures
4	Dynamic Response of Floating Structures
5	Partial quizz
6	Design of Fixed Offshore Structures
7	Design of Floating Offshore Structures
8	Oral presentation
9	Analysis of Mooring, Anchoring and Foundation of Offshore Structures
10	Evaluation of Renewable Energy Resources in the Ocean
11	Systems for Harvesting Ocean Renewable Energy
12	Partial quizz

7. MÉTODOS DE LA EVALUACIÓN

Descripción	Tipología	Eval. Final	Recuper.	%
Assignments	Trabajo	No	Sí	40,00
Partial quizzes	Examen escrito	No	Sí	40,00
Oral presentation	Examen oral	No	No	20,00
		No	No	0,00
TOTAL				100,00

Observaciones

Observaciones para alumnos a tiempo parcial

Partial-time students will be evaluated through:

Assignments: (40% of total score)
Oral presentation: Oral Power Point presentation of a selected subject (20% of total score)
Final exam: Written final exam (40% of the score)
Final exam:

8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS

BÁSICA

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

Esta es la Guía Docente abreviada de la asignatura. Tienes también publicada en la Web la información más detallada de la asignatura en la Guía Docente Completa.