

GUÍA DOCENTE ABREVIADA DE LA ASIGNATURA

507 - Laboratory and Experimental Analysis in Coastal Engineering

Erasmus Mundus Joint Master Degree in Coastal Hazards - Risks, Climate Change Impacts and Adaptation

Curso Académico 2024-2025

1. DATOS IDENTIFICATIVOS					
Título/s	Erasmus Mundus Joint Master Degree in Coastal Hazards - Risks, Climate Change Impacts and Adaptation			Tipología y Curso	Optativa. Curso 1
Centro	Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos				
Módulo / materia	Asignaturas del Erasmus Mundus Joint Master Degree in Coastal Hazards				
Código y denominación	507 - Laboratory and Experimental Analysis in Coastal Engineering				
Créditos ECTS	1	Cuatrimestre	Cuatrimestral (1)		
Web					
Idioma de impartición	Inglés	English friendly	No	Forma de impartición	Presencial

Departamento	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE				
Profesor responsable	MARIA EMILIA MAZA FERNANDEZ				
E-mail	mariaemilia.maza@unican.es				
Número despacho	Edificio IH Cantabria. Planta: + 2. SALA COMUN (215-5)				
Otros profesores					

3.1 RESULTADOS DE APRENDIZAJE	
- Students will know the main advantages and disadvantages of experimental methods used in hydraulics: numerical, physical experimentation in the laboratory and field experimentation.	
- Students will be able to perform dimensional analysis of the most common processes in hydraulics and will know the most common dimensionless numbers used in the scaling of these processes.	
- Students will be able to design physical model tests of flow and stability of coastal structures subjected to wave and current action.	
- Students will be familiar with the most common measurement techniques in physical modeling in the laboratory.	

4. OBJETIVOS	
Students will learn the main capabilities and limits of physical modeling in the laboratory.	
Students will be able to recognize the most relevant parameters of the study, being able to select the appropriate scaling laws.	
Students will be able to set the basis for an experimental campaign considering the different steps needed to plan it.	
Students will be familiar with the most common laboratory measurement systems.	

6. ORGANIZACIÓN DOCENTE	
CONTENIDOS	
1	Introduction to experimental approaches.
2	Dimensional analysis, pi theorem, scaling, errors in physical modeling, and types of physical models.
3	Definition and planning of a experimental campaign and measurement techniques.

7. MÉTODOS DE LA EVALUACIÓN				
Descripción	Tipología	Eval. Final	Recuper.	%
Practical Exercise 1	Trabajo	Sí	Sí	50,00
Practical Exercise 2	Trabajo	Sí	Sí	50,00
TOTAL				100,00
Observaciones				
Class attendance is mandatory				
Criterios de evaluación para estudiantes a tiempo parcial				
Same as the ones applied to students in full-time basis, but with flexibility in the Practical Exercises delivery.				

8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS	
BÁSICA	
Steven A Hughes (World Scientific). Physical Models and Laboratory Techniques in Coastal Engineering	

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.