GUÍA DOCENTE ABREVIADA DE LA ASIGNATURA

508 - Marine and Atmospheric Climate

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

Curso Académico 2026-2027

1. DATOS IDENTIFICATIVOS					
Título/s	Erasmus Mundus Joint Master Degree in Coastal Hazards - Risks, Climate Change Impacts and Adaptation			Tipología y Curso	Obligatoria. 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	508 - Marine and Atmospheric Climate				
Créditos ECTS	4	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	MELISA MENENDEZ GARCIA
E-mail	melisa.menendez@unican.es
Número despacho	Edificio IH Cantabria. Planta: + 2. DESPACHO (226)
Otros profesores	

3.1 RESULTADOS DE APRENDIZAJE

- The student will know and understand the climatic variability associated with the different time scales of interest of the environmental variables that will be used throughout the Master's degree.

Students will be able to associate and characterise the different climatic processes associated with meteorology , oceanography and hydrology, and will learn the nomenclature and meaning of the basic terms.

The student will know and be able to handle climatic databases in different formats .

The student will be able to write a report defining marine and coastal climatic characteristics at any point along the coast.

The student will know the meteo-oceanographic variables and how to combine these variables in a deterministic and probabilistic way for their application in problems associated with the coastal environment.

The student will understand the phenomenon of Climate Change and the specific implications associated with variables of interest in the coastal environment.

4. OBJETIVOS

- The student will know and understand the main phenomena associated with the climate system, especially those processes associated with the water and energy fluxes in the marine and coastal environment.

- The student is able to handle the instrumental and numerical databases in order to characterize the maritime climate at any coastal location.

- The student will understand and be able to use information related to climate variability for different scales of interest (i.e. seasonality, interannual variability, long-term trends, climate change projections).

6. ORGANIZACIÓN DOCENTE

CONTENIDOS	
1	The climate system
2	Meteorology
3	Hidroclimatology
4	Oceanography
5	Climate Variability
6	Climate Change

7. MÉTODOS DE LA EVALUACIÓN

Descripción	Tipología	Eval. Final	Recuper.	%
Exámenes parciales	Actividad de evaluación con soporte virtual	No	Sí	60,00
Ejercicios/problemas	Examen escrito	No	Sí	40,00
TOTAL				100,00

Observaciones

It is mandatory to attend, at least, the 80% of the classroom teaching.

Criterios de evaluación para estudiantes a tiempo parcial

Students taking the course on a part-time basis must complete the same assignments and exams as students taking the course on a full-time basis.
Due to their condition, the deadline for the quizzes and assigments will be flexible.
The student must communicate its part-time basis status at the beginning of the course

8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS

BÁSICA

Zhongming, Z., Linong, L., Xiaona, Y., Wangqiang, Z., & Wei, L. (2021). AR6 Climate Change 2021: The Physical Science Basis.

IPCC, 2019: Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Po¨rtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegri´a, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In press.

Barry, R. G., & Hall-McKim, E. A. (2014). Essentials of the Earth's climate system. Cambridge University Press.

Bridgman, H. A., & Oliver, J. E. (2014). The global climate system: patterns, processes, and teleconnections. Cambridge University Press.

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.