

GUÍA DOCENTE ABREVIADA DE LA ASIGNATURA

503 - Applied Computational Tools in Coastal Engineering

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

Curso Académico 2023-2024

1. DATOS IDENTIFICATIVOS				
Título/s	Erasmus Mundus Joint Master Degree in Coastal Hazards - Risks, Climate Change Impacts and Adaptation		Tipología v 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	503 - Applied Computational Tools in Coastal Engineering			
Créditos ECTS	5	Cuatrimestre	Cuatrimestral (1)	
Web				
Idioma de impartición	Inglés	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	ALEXANDRA TOIMIL SILVA		

3.1 RESULTADOS DE APRENDIZAJE

- The main scope of this course is that the students would be able to know, implement and master the general aspects of technical programming offered by MATLAB® software, applied to the resolution of problems related to the field of coastal engineering.

4. OBJETIVOS

The student will be able to acquire, manage, modify, represent and export information associated with coastal processes.

The student will be able to handle the instrumental and numerical databases in order to characterize the wave climate variables.

The student will be able to apply mathematical, numerical and statistical techniques for the characterization of hydrodynamic variables in coastal zones.

6. ORGANIZACIÓN DOCENTE

CONTENIDOS

1	Chapter 1. Introduction – The MATLAB environment & Vectors and matrices
2	Chapter 2. Matrices - Matrices functions & Hypermatrices and cell arrays
3	Chapter 3. Programming in Matlab – Part 1 & Part 2
4	Chapter 4. Time domain
5	Chapter 5. Statistics and Probability Distributions – Part 1 & Part 2
6	Chapter 6. Importing, exporting and manipulating data – Part 1 & Part 2
7	Chapter 7. Graphical representation of data – Part 1 & Part 2
8	Chapter 8. Solving equations and systems of equations – Part 1 & Part 2

7. MÉTODOS DE LA EVALUACIÓN

Descripción	Tipología	Eval. Final	Recuper.	%
Practical Exercise 1	Trabajo	Sí	Sí	30,00
Practical Exercise 2	Trabajo	Sí	Sí	30,00
Practical Exercise 3	Trabajo	Sí	Sí	30,00
Class attendance and participation	Otros	Sí	No	10,00
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, being the weight for each Practical Exercise equal to 1/3 of the total grade of the course. Due to their condition, the deadline for Practical Exercises assignments will be flexible, and the student will be provided with the necessary teaching material for the execution of these assignments.

8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS

BÁSICA

Getting Started with MATLAB: A Quick Introduction for Scientists and Engineers. Oxford University Press, 2017. Rudra Patrap.

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.