

SUBJECT TEACHING GUIDE

550 - Erosion and sedimentation in coasts and rivers

Master's Degree in Coasts and Ports

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Master's Degree in Coasts and Ports			Type and Year	Compulsory. Year 1
Faculty	School of civil Engineering				
Discipline					
Course unit title and code	550 - Erosion and sedimentation in coasts and rivers				
Number of ECTS credits allocated	4	Term	Semester based (1)		
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	ERNESTO MAURICIO GONZALEZ RODRIGUEZ				
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Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. ERNESTO MAURICIO GONZALEZ RODRIGUEZ (0046A)				
Other lecturers	RAUL MEDINA SANTAMARIA				

3.1 LEARNING OUTCOMES	
- The student will be able to select a sediment transport model and to apply it in studies related with basins, transitional waters (estuarine areas) and coastal areas	
- The Student will be able to understand the sediment transport processes under a fluid action and its application in littoral areas	
- The student will be able to know the hypothesis, application range and limitations for different sediment transport models, and to understand and to evaluate model results	

4. OBJECTIVES

The main scope of this course is that the students would be able to quantify the volume of sand and sediment transport rates in coastal areas and basins.

6. COURSE ORGANIZATION

CONTENTS	
1	Introduction to the Sediment Transport
2	Sediment Transport in uniform flow
3	Sediment Transport in wave-current interaction flow
4	Sediment Transport in oscillatory flow
5	Sediment Transport models
6	Examples of real cases
7	Test
8	Hydrology and fluvial hydraulics
9	Large-scale erosional processes in rivers
10	Sediment transport in rivers
11	River-estuary-coastal interaction
12	Large-scale sediment transport models
13	Final exam

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Exercise 1	Work	No	No	15,00
Exercise 2	Work	No	No	15,00
Exercise 3	Work	No	No	15,00
Test	Written exam	No	Yes	15,00
Final exam	Written exam	Yes	Yes	40,00
TOTAL				100,00

Observations

-it is obligatory to attend the 80% of the classroom teaching
-Only for duly justified causes (eg sanitary restrictions), the evaluations may be organized remotely, with prior authorization from the Center's Direction.

Observations for part-time students

Part-time students will apply the same assessment criteria as full-time students. The temporary distribution of activities will be adapted to the particular conditions of each student when deemed necessary.

8. BIBLIOGRAPHY AND TEACHING MATERIALS**BASIC**

Coastal Engineering Manual, CEM. (2002-2006). Part III. CHL-Coastal and Hydraulics Laboratory. USA.

Van Rijn, L. C. (1993). Principles of Sediment Transport in Rivers, Estuaries and Coastal Seas. Aqua Publications, Amsterdam.

Soulsby, R. (1997). Dynamics of Marine Sands. Ed. Thomas Telford LTD.