

SUBJECT TEACHING GUIDE

549 - Process and activities in transition waters

Master's Degree in Coasts and Ports

Academic year 2024-2025

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	549 - Process and activities in transition waters				
Number of ECTS credits allocated	2	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE				
Name of lecturer	MARIA SONIA CASTANEDO BARCENA				
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Other lecturers					

3.1 LEARNING OUTCOMES	
- The student will be able to analyze and calculate the morphodynamic evolution of an estuary both in the short and long term using state of the art methodologies and tools	
- The student will be able to understand estuarine hydrodynamics, to know the main forcing (astronomical tide, wind, salinity and temperature) and to apply numerical modeling	

4. OBJECTIVES

The student will be able to identify the main drivers determining estuarine morphodynamics

The student will know how to analyze estuarine morphodynamics

The student will know the govern equations to analyze estuarine hydrodynamics: calculation of currents, sea level and mixing

The student will know the basics of sediment transport in estuaries

The student will know methodologies for estuarine restoration

6. SUBJECT PROGRAM

CONTENTS

1	Definition and clasification
2	Characteristics and morphodynamic features
3	Currents and mixing
4	Sediment transport
5	Hydrodynamic modeling
6	Morphodynamic
7	Estuarine restoration
8	Final test

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Case study #1	Work	No	No	20,00
Case study #2	Work	No	No	20,00
Exam	Written exam	Yes	Yes	60,00
TOTAL				100,00
Observations				
<p>The evaluation of student learning will be carried out continuously throughout the course and will be completed with a final test.</p> <p>Only for duly justified causes (eg health restrictions) the evaluation may be organized remotely, with prior authorization from the Direction of the School.</p> <p>The evaluation criteria will take into account:</p> <ul style="list-style-type: none"> -Class participation and interest shown. -Master the basic concepts exposed in the subject -Being able to apply the knowledge acquired, solving practical problems -Present the proposed works correctly and in an orderly manner <p>The instruments used to carry out the evaluation will be:</p> <p>a. Practical activities (P1 and P2) (valuation of 20% each)</p> <p>b. Final written test, which will cover the whole subject and will include theoretical questions and practical exercises (60% of the final grade).</p> <p>The minimum grade to pass the course must be 5.0 in total (practices + final test), and must obtain at least 5.0 in the final exam to be able to add the mark for the practices. Suspended students will have an extraordinary call in July.</p> <p>The repeated lack of attendance and punctuality not justified to the classes may give rise to the loss to the continuous evaluation, being necessary to go to the extraordinary call in the month of July.</p> <p>In relation to the agreements adopted at the ordinary session of the School Board held on June 10, 2010, it is established that, with respect to evaluation activities that are recoverable,</p> <ul style="list-style-type: none"> - As a general criterion and unless a different thing is specified in this guide , a student may only recover those activities that he/she has not passed, that is, in which he/she has not obtained a minimum grade of 5/10. - As a general criterion and unless a different thing is specified in this guide , in the recovery period the evaluation procedure of an activity will be the same as that of the activity that originates it. <p>Note: according to R.D 1125/2003 on the European credit system and the grading system for official university degrees and valid throughout the national territory, the results obtained by the student in each of the subjects of the Studies Plan will be graded according to the following numerical scale from 0 to 10, with the expression of a decimal, to which their corresponding qualitative qualification may be added: 0,0 - 4,9: Suspenso (SS). 5,0-6,9: Aprobado (AP). 7,0-8,9; Notable (NT). 9,0-10: Sobresaliente (SB)</p>				
Observations for part-time students				
Students at part time should present the exercises P1 and P2, and do the final test.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Dean, R. G., Dalrymple, A. (1993). Water wave mechanics for engineers and scientists. Ed. World Scientific. Advanced series on Ocean Engineering. Vol. 2.
Prandle, D. (2009). Estuaries. Dynamics, Mixing, Sedimentation and Morphology. CAMBRIDGE UNIVERSITY PRESS.

