

SUBJECT TEACHING GUIDE

582 - Extension of Coastal Engineering

Master's Degree in civil Engineering, Canal and Port Engineering

Academic year 2023-2024

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------|------------------|
| Degree | Master's Degree in civil Engineering, Canal and Port Engineering | | | Type and Year | Optional. Year 2 |
| Faculty | School of civil Engineering | | | | |
| Discipline | SPECIALITY IN WATER, ENERGY AND THE ENVIRONMENT | | | | |
| Course unit title and code | 582 - Extension of Coastal Engineering | | | | |
| Number of ECTS credits allocated | 3 | Term | Semester based (2) | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | No | Mode of delivery | Face-to-face |

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|------------------|--|--|--|--|--|
| 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 |
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| - Characterize and know how to analyze the dynamics and physical processes in estuaries. |
| - Characterize, identify and carry out preliminary designs of actions in estuaries and their mouths. |
| - Assess the different components of coastal flooding risk: hazards, vulnerability, exposure, etc. |
| - To know the main tools and methodologies to assess the risk generated, both on human resources and on the economy and ecosystems. |

4. OBJECTIVES

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| That the student knows how to analyze the dynamics and physical processes in an estuary. |
| That the student has the knowledge for the design, construction and management of actions in an estuary and its mouth. |
| That the student knows how to evaluate the different components of coastal flood risk: hazard, vulnerability and exposure. |
| The student should know the main tools and methodologies to evaluate the risk generated on human, economic and environmental resources. |

6. COURSE ORGANIZATION

| CONTENTS | |
|----------|---|
| 1 | Definition and classification of estuaries |
| 2 | Estuarine drivers and physical processes |
| 3 | Estuarine morphodynamics |
| 4 | Actions in estuaries: dredging and filling |
| 5 | Estuarine restoration |
| 6 | Introduction: Conceptual framework of risk. |
| 7 | Coastal flooding risk. Methodologies |
| 8 | Hazard calculation. Tools and data |
| 9 | Physical, socio-economic and environmental exposure |
| 10 | Vulnerability assessment |
| 11 | Risk quantification and mitigation measures |

| 7. ASSESSMENT METHODS AND CRITERIA | | | | |
|---|--------------|-------------|-----------|--------|
| Description | Type | Final Eval. | Reassessn | % |
| <p>The evaluation will be carried out continuously throughout the course and will be completed with a final exam.</p> <p>The instruments used to carry out the evaluation will be:</p> <p>a. Practical activities (50% of the final grade).</p> <p>b. Final written test, which will c</p> | Written exam | No | Yes | 50,00 |
| Individual and Group work | Work | No | No | 50,00 |
| 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 (valuation of 50% of the final grade)</p> <p>b. Final written test, which will cover the whole subject and will include theoretical questions and practical exercises (50% 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 4.0 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 | | | | |
| 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

Presentaciones de PowerPoint y apuntes de la asignatura

Kamphuis, W. (2010). Introduction to Coastal Engineering and management. World Scientific

Prandle, D. (2009). Estuaries. Dynamics, Mixing, Sedimentation and Morphology. CAMBRIDGE UNIVERSITY PRESS.

Birkmann, J. (2006) Measuring vulnerability to natural hazards: towards disaster resilient societies, United Nations University