

**COURSE DATA****Data Subject**

<b>Code</b>	43824
<b>Name</b>	Coastal environmental actions
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	3.0
<b>Academic year</b>	2019 - 2020

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2227 - M.U. en Ingeniería Ambiental	School of Engineering	2	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2227 - M.U. en Ingeniería Ambiental	7 - Optional subjects of specialisation	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
SECO TORRECILLAS, AURORA	245 - Chemical Engineering

**SUMMARY**

Professor UPV: José Serra Peris

The subject introduces the student to the knowledge of the dynamics and coastal processes of the coastal-coastal environment, as it presents the possible actions that can be carried out for its defense, protection and regeneration of the environment. The training is completed with topics of coastal legislation and planning of follow-up plans.

**PREVIOUS KNOWLEDGE**



### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

No restrictions.

## OUTCOMES

### 2172 - M.U. en Ingeniería Ambiental

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Identify and apply technologies, tools and techniques in the field of environmental engineering.
- Assume with responsibility and ethics the Environmental Engineer role in a professional context.
- Promote and apply the principles of sustainability.
- Adapt to changes, being able to apply the principles of Environmental Engineering to unknown cases and use new and advanced technologies and other relevant developments, with initiative and entrepreneurial spirit.
- Be able to organize their own work as well as the material and human resources necessary to achieve the objectives stated.
- Identify, declare and entirely analyze environmental problems.
- Assess the application of measures for the pollution prevention and the recovery, protection and improvement of environmental quality.
- Carry out theoretical analyzes of environmental systems, both natural and artificial, and develop and apply mathematical models for their simulation, optimization or control.
- Design and calculate engineering solutions to environmental problems, comparing and selecting technical alternatives and identifying emerging technologies.
- Understand and apply environmental national and international legislation, adapting environmental solutions to these regulations.



- Apply methodologies for evaluation and correction of environmental impact.
- Apply standard methodologies for the analysis and evaluation of environmental risks.
- Apply different tools and environmental management systems.
- Apply techniques for the analysis and resolution of regional planning problems.

## LEARNING OUTCOMES

- 1 Know the dynamics and coastal processes.
- 2 Diagnose the stability of the resource by identifying the risk actions.
- 3 Know and assess the resource recovery techniques.
- 4 Define and implement control, monitoring and surveillance programs for the coastal abiotic environment.
- 5 Know the techniques of integral management of the coastal coastal environment.

## DESCRIPTION OF CONTENTS

### 1. The Coastal Environment

1. Introduction
2. Coastline Dynamics
3. Coastal Classification

### 2. Impacts on the Coast

1. Impacts on the Coast
2. Internal Risks
3. External Risks

### 3. Restoration of the Coastal-Coastal Environment

1. Typology
2. Breakwaters and Dykes
3. Artificial Feeding
4. Regeneration Dunar

**4. Ordination, Sustainability and Coastal Legislation**

1. Control and monitoring of beaches
2. Coastal Management
3. Litoral Legislation
4. Uses of the Litoral

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	20,00	100
Theoretical and practical classes	5,00	100
Classroom practices	5,00	100
Development of group work	10,00	0
Study and independent work	5,00	0
Preparation of evaluation activities	15,00	0
Preparing lectures	5,00	0
Preparation of practical classes and problem	5,00	0
Resolution of case studies	5,00	0
<b>TOTAL</b>	<b>75,00</b>	

**TEACHING METHODOLOGY**

The training activities will be developed according to the following distribution:

- Theoretical activities.

Description: In the theoretical classes the topics will be developed providing a global and integrating vision, analyzing in greater detail the key aspects and of greater complexity, promoting, at all times, the participation of the student.

- Practical activities.

Description: They complement the theoretical activities in order to apply the basic concepts and expand them with the knowledge and experience that they acquire during the realization of the proposed works. They comprise the following types of face-to-face activities:



Classes of problems and questions in the classroom

- o Discussion and problem solving sessions and exercises previously worked by the students
- o Programmed tutoring (individualized or in groups)
- Student's personal work.

Description: Realization (outside the classroom) of monographic works, directed bibliographic search, resolution of issues and problems, as well as the preparation of classes and exams (study). This task will be carried out individually and tries to promote autonomous work.

- Work in small groups.

Description: Realization, by small groups of students (2-4) of work and problem solving outside the classroom. This task complements the individual work and fosters the capacity for integration in work groups.

- Evaluation.

Description: Realization of individual evaluation questionnaires in the classroom with the presence of the teacher.

The e-learning platform (Virtual Classroom of the Universitat de València and / or PoliformaT of the Polytechnic University of Valencia) will be used as a communication support with the students. Through it you will have access to the didactic material used in class, as well as the problems and exercises to solve.

## EVALUATION

The evaluation system is the performance of four written tests of open response. the tests will be carried out once the thematic block is finished. The evaluation is complemented by two academic papers that can be done individually or in groups of two students.

Students who do not attend class due to exemption must present an academic paper and pass a written test.



## REFERENCES

### Basic

-

La ley de costas y do reglamento: Sentencias del Tribunal Constitucional (España Dirección General de Costas)

Legislación de costas (España)

Chapters 1 through 4 (Coastal Engineering Research Center Estados Unidos)

La playa y las dunas de restauración (Karl F. Nordstrom)

Directrices para el diseño de diques exentos en las costas españolas (José Manuel de la Peña Olivas)

Ingeniería de costas (Rafael del Moral Carro)

Ingeniería de costas: Soluciones duras o blandas versus condiciones genéticas (Garau Sagrista, Carlos)

Guía para la implementación de un sistema de gestión integrada de zonas costeras (\*)

Coastal environments : problems and perspectives (\*)

## ADDENDUM COVID-19

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

**English version is not available**