Information about the subject

Degree: Bachelor of Degree in Marine Sciences

Faculty: Faculty of Veterinary Medicine and Experimental Sciences

Code: 272007 **Name:** Sedimentology

Credits: 6,00 **ECTS Year:** 2 **Semester:** 2

Module: Transversal Knowledge and Techniques in Marine Sciences

Subject Matter: Marine Geology **Type:** Compulsory

Department: Oceanography and Environment

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

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Module organization

Transversal Knowledge and Techniques in Marine Sciences

Subject Matter	ECTS	Subject	ECTS	Year/semester
Organisms and Systems	30,00	Marine Botany	6,00	2/2
		Marine Ecology	6,00	3/2
		Marine Microbiology	6,00	2/2
		Marine Zoology	6,00	2/1
		Physiology of Marine Organisms	6,00	2/2
Marine Geology	12,00	Geophysics and Tectonics	6,00	2/1
		Sedimentology	6,00	2/2
Geographic Information Systems and Remote Sensing	6,00	Geographic Information Systems and Remote Sensing	6,00	2/1
Statistics	6,00	Applied Statistics	6,00	2/1

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1 The student samples sediments on the coast and performs textural and compositional analysis of them.

R2 The student performs the morphodynamic study of a current duna-beach system by monitoring its topographical changes and the characteristics of the sediment.

R3 The student elaborates a cartography of sedimentary units and their recent evolution, from interpretation of aerial photographs with stereoscopic vision.

R4 The student knows the main classifications of sediments following different criteria.

R5 The student knows the basic concepts for the identification and classification of sedimentary basins and environments.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC		Weighting			
		1	2	3	4
CB2	Students are able to apply knowledge to their work in a professional way and have the competences enabling them to state and defend views and opinions as well as perform problem-solving tasks in their field of study.				x
CB5	Students develop the necessary learning skills to undertake further studies with a high level of autonomy.				x

GENERAL		Weighting			
		1	2	3	4
CG1	Capacity to analyze and synthesize				x
CG2	Capacity to organize and plan			x	
CG6	Capacity to manage information (capacity to look for and analyze information coming from different types of sources)			x	
CG8	Capacity to work in interdisciplinary and multidisciplinary team			x	
CG10	Critical and self-critical capacity			x	
CG11	Capacity to learn				x
CG16	Capacity to apply theoretical knowledge				x
CG18	Sensibility to environmental issues.			x	

SPECIFIC		Weighting			
		1	2	3	4
CE2	Knowing basic sampling techniques of water column, organisms, sediment and sea-bottoms as well as basic techniques of dynamic and structural variable measurement				x
CE6	Applying marine instrument techniques			x	
CE7	Collecting, assessing, processing and interpreting oceanographic data, following the most recent theories				x
CE8	Identifying and analyzing new problems and proposing solution strategies			x	
CE9	Knowing how to carry out experiments and measurements both in the laboratory and during sample collection				x
CE10	Knowing how to use planning, designing and implementing research tools while surveying and assessing results			x	
CE11	Knowing how to do fieldwork and laboratory experiments in a safe and responsible way, promoting teamwork			x	
CE12	Describing, classifying and mapping sea bottoms and coastal areas				x
CE22	Practical experience of methods of marine environmental impact assessment			x	

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R4, R5	50,00%	Written test with theoretical and practical questions
R2, R3	30,00%	Delivery of guided assignments, whose objectives and contents will be proposed by the teacher
R1	10,00%	Laboratory test
R3, R4	10,00%	Oral presentation

Observations

According to the general evaluation and qualification regulations, the preferred evaluation system will be by means of continuous evaluation. Specifically:
Continuous assessment will be applied to the item ‘Written test with theoretical and practical questions’ through the submission of tasks in UCVNet.
Minimum 50% in each item to average with the rest.

MENTION OF DISTINCTION:
In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with 9 Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1 Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge.

M2 Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity.

M3 Activities carried out in spaces with specialized equipment.

M4 Supervised monographic sessions with shared participation.

M5 Application of multidisciplinary knowledge.

M6 Personalized and small group attention. Period of instruction and/or guidance carried out by a tutor to review and discuss materials and topics presented in classes, seminars, readings, papers, etc.

M8 Set of oral and/or written tests used in initial, formative or additive assessment of the student.

M9 Group preparation of readings, essays, problem-solving, seminars, papers, reports, etc. to be presented or submitted in theoretical , practical and/or small-group tutoring sessions. Work done on the university e-learning platform (www.plataforma.ucv.es)

M10 Student's study: Individual preparation of readings, essays, problem-solving, seminars, papers, reports, etc. to be presented or submitted in theoretical, practical and/or small-group tutoring sessions. Work done on the university e-learning platform (www.plataforma.ucv.es).

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS M1	R4, R5	33,00	1,32
PRACTICAL CLASSES M2	R2, R3	11,00	0,44
LABORATORY M3	R1	5,00	0,20
SEMINAR M4	R4, R5	3,00	0,12
GROUP PRESENTATION OF ASSIGNMENTS M5	R3, R4, R5	3,00	0,12
TUTORIAL M6	R1, R2, R3, R4, R5	3,00	0,12
ASSESSMENT M8	R3, R4, R5	2,00	0,08
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK M9	R1, R2, R3, R4, R5	18,00	0,72
INDEPENDENT WORK M10	R1, R2, R3, R4	72,00	2,88
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
DIDACTIC UNIT I: SEDIMENTS.	Definition. Texture and composition parameters in composition analysis. Classification of sediments in littoral and marine environments based on their origin.
DIDACTIC UNIT II: MARINE AND COASTAL SEDIMENTARY ENVIRONMENTS.	Definitions. Analysis of the sediments of the continental shelf, slope and abyssal depths. Morphologic and sedimentary studies of coastal dunes, beaches, spits, estuaries, marshes, estuaries, deltas, fjords, systems-barrier island / lagoon, coral, etc.
DIDACTIC UNIT III: CONTINENTAL SEDIMENTARY ENVIRONMENTS.	Definitions. Classifications of continental environments: alluvial, glacier, desert, lacustrine, palustrine, marsh, fluvial, Main features of the continental sedimentary environments.
DIDACTIC UNIT IV: STRATIGRAPHY OF LITTORAL SEDIMENTARY ENVIRONMENTS.	Basic stratigraphic principles, series, sequences and rhythms. Stratigraphic discontinuities. Sedimentary structures

Organization of the practical activities:

	Content	Place	Hours
PR1.	LABORATORY PRACTICES. Grain size and chemical analysis of the sedimentary samples. Interpretation of sedimentary curves, histograms and textural diagrams.	Laboratory	5,00
PR2.	CLASSROOM PRACTICES: photo-interpretation of stereoscopic pairs from different coastal forms.	Lecture room	11,00
PR3.	PRACTICE. EXCURSION. Objective: To recognize ways in coastal mapped in classroom practices. Coastal sediment sampling	Field visit	7,00

Temporary organization of learning:

Block of content	Number of sessions	Hours
DIDACTIC UNIT I: SEDIMENTS.	8,00	16,00
DIDACTIC UNIT II: MARINE AND COASTAL SEDIMENTARY ENVIRONMENTS.	14,00	28,00
DIDACTIC UNIT III: CONTINENTAL SEDIMENTARY ENVIRONMENTS.	6,00	12,00
DIDACTIC UNIT IV: STRATIGRAPHY OF LITTORAL SEDIMENTARY ENVIRONMENTS.	2,00	4,00

References

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