Information about the subject

Degree: Bachelor of Degree in Marine Sciences

Faculty: Faculty of Veterinary Medicine and Experimental Sciences

Code: 273007 **Name:** Geological Oceanography

Credits: 6,00 **ECTS Year:** 3 **Semester:** 1

Module: Professional

Subject Matter: Oceanography **Type:** Compulsory

Department: Oceanography and Environment

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

273A	Ana Eugenia Rodríguez Pérez **(Responsible Lecturer)**	ae.rodriguez@ucv.es
	Francesc De Borja Martinez-Clavel Valles	fdb.martinezclavel@ucv.es

Module organization

Professional

Subject Matter	ECTS	Subject	ECTS	Year/semester
Oceanography	36,00	Chemical Oceanography	6,00	3/1
		Geological Oceanography	6,00	3/1
		Marine Biology and Biological Oceanography	6,00	3/1
		Methods in Oceanography I: Physical and Geological	6,00	3/2
		Methods in Oceanography II: Chemical and Biological	6,00	3/2
		Physical Oceanography	6,00	3/1
Marine living resources	12,00	Aquaculture	6,00	3/2
		Fisheries	6,00	3/2
Marine and Coastal Management	18,00	Coastal Planning and Management	6,00	4/1
		Legislation and Economy	6,00	4/1
		Marine Pollution	6,00	4/1

Recommended knowledge

The student must have passed the Geology, Geophysics and Tectonics courses. Spatio-temporal skills.

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 knows the main morphologies of the seabed (platforms, slopes, abyssal plains, dorsal plains, etc.).
R2	The student designs and interprets a stratigraphic column.
R3	The student correlates isochronous and isopic facies between several stratigraphic columns.
R4	The student knows the main concepts about climatic variability and the oscillations of the mean sea level.
R5	The student knows how to identify seismic units and relates them to the processes of programming, agradation and retrogradation.
R6	The student knows the fundamental concepts in Paleontology.
R7	The student knows the keys to identification.

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
CB4	Command of a foreign language			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	
CG3	Mastering Spanish oral and written communication		x		
CG5	Knowing and applying Basic ITC skills related to marine science		x		
CG6	Capacity to manage information (capacity to look for and analyze information coming from different types of sources)			x	
CG7	Decision making		x		
CG8	Capacity to work in interdisciplinary and multidisciplinary team		x		
CG9	Interpersonal skills		x		
CG10	Critical and self-critical capacity		x		
CG11	Capacity to learn		x		
CG12	Capacity to adapt to new situations				x

CG16	Capacity to apply theoretical knowledge			x	
CG17	Research skills				x
CG18	Sensibility to environmental issues.	x			

SPECIFIC		Weighting			
		1	2	3	4
CE1	Knowing and understanding contents, principles and theories related to Oceanography		x		
CE7	Collecting, assessing, processing and interpreting oceanographic data, following the most recent theories		x		
CE9	Knowing how to carry out experiments and measurements both in the laboratory and during sample collection		x		

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R4, R5, R6	50,00%	Written test with theoretical and practical questions
R2, R3, R4, R5	30,00%	Delivery of guided assignments, whose objectives and contents will be proposed by the teacher
R2, R3, R4, R6	10,00%	Laboratory test
R1	10,00%	Oral presentation

Observations

This course is not eligible for single evaluation. According to the general evaluation and qualification regulations, the preferred evaluation system will be by means of continuous evaluation. Specifically: There will be an initial test of prior knowledge and a continuous assessment through questionnaires at two moments during the course.
Attendance at practical sessions is mandatory.
A minimum score of 5 points out of 10 is required in all evaluable items to average the final grade of the course.
The use of artificial intelligence (AI)-based tools is subject to the discretion of the teacher, who may establish specific limits or conditions depending on the training or assessment activity.

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	R1, R2, R4, R5, R6, R7	30,00	1,20
PRACTICAL CLASSES M2	R2, R3, R4	20,00	0,80
LABORATORY M3	R7	2,00	0,08
SEMINAR M4	R1, R2	2,00	0,08
GROUP PRESENTATION OF ASSIGNMENTS M5	R1	2,00	0,08
TUTORIAL M6	R2, R3, R4, R6	2,00	0,08
ASSESSMENT M8	R1, R2, R3, R4, R5, R6	2,00	0,08
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK M9	R1, R2, R4	40,00	1,60
INDEPENDENT WORK M10	R3, R5, R6	50,00	2,00
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Unit I MORPHOLOGY OF SEABED	Continental shelf, slope, underwater valleys, underwater canyons, landslides and overflows, turbidic systems, abyssal plain, mid-oceanic channels, ridges, underwater mountains. Spanish continental platforms.
Unit II SEA LEVEL FLUCTUATIONS AND THEIR STRATIGRAPHIC RECORDING	Accommodation space. Absolute and relative oscillations of sea level. Transgressions and regressions. Causes of sea level oscillations. Stratigraphic facies. Types of facies. Radiometric dating techniques, magnetostratigraphy, fission traces, luminescence and amino acid racemization. Stratigraphic correlation.
Unit III SEISMIC AND SEQUENTIAL STRATIGRAPHY	**Stratigraphy and sedimentology:** Continuity and discontinuity. Non-conformities. Coinage. Agradation, progradation and retrogradation. Depositional sequences. Parasecquences and Cyclicality. **Basin analysis:** Stratigraphic sequence of siliciclastic and carbonate systems. Stratigraphic sequence of turbidic deposits and contours. Expansive (onlap) and retroactive (offlap) overlap. Basal (downlap) and somital (toplap) beveling. Internal bed shapes.
Unit IV INTRODUCTION TO PALEONTOLOGY	Concept of fossil and types of fossils. Working methods in paleontology. Guide fossils. Marine macrofossils. Marine microfossils. Biostratigraphy. Paleoceanography and Paleoclimatology.

Organization of the practical activities:

	Content	Place	Hours
PR1.	Morpho-genetic study of the seabed. Creating a report with the morphology and the behavior of tectonic plates from the analysis of the topography and bathymetry.	Computer	10,00
PR2.	Stratigraphic column	Computer	10,00
PR3.	Stratigraphic correlation and description of facies	Marine station	10,00
PR4.	Description of guide fossils and paleontological site	Laboratory	2,00

Temporary organization of learning:

Block of content	Number of sessions	Hours
Unit I MORPHOLOGY OF SEABED	9,00	18,00
Unit II SEA LEVEL FLUCTUATIONS AND THEIR STRATIGRAPHIC RECORDING	8,00	16,00
Unit III SEISMIC AND SEQUENTIAL STRATIGRAPHY	8,00	16,00
Unit IV INTRODUCTION TO PALEONTOLOGY	5,00	10,00

References

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