



Information about the subject

Degree: Bachelor of Degree in Marine Sciences

Faculty: Faculty of Veterinary Medicine and Experimental Sciences

Code: 273002 **Name:** Marine Biology and Biological 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:

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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

No prerequisites.

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 classifications of benthic and pelagic organisms.
- R2 The student elaborates schemes and conceptual maps on adaptations and biological types of marine organisms.
- R3 The student uses diverse methodologies of collection, processing and descriptive analysis of samples of marine organisms.
- R4 The student is able to identify adaptations of organisms to environmental factors.
- R5 The student prepares reports and makes valid judgments on various aspects of the study of benthos and pelagos.
- R6 The student identifies the main marine communities of the Mediterranean and their associated problems.



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		
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
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
CE13	Looking for and assessing different kinds of marine resources	X			



Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R4, R6	50,00%	Written test with theoretical and practical questions
R2, R3, R4, R5	40,00%	Delivery of guided assignments, whose objectives and contents will be proposed by the teacher
R1, R2, R3, R4, R5, R6	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: After each block of content, participatory seminars will be held to monitor the students' learning, which will then be assessed in the final exam. These seminars, together with the supervised work, will have a weight of 20% (within the 40% of the item 'Supervised work') and the other 20% will correspond to the Calpe practice report.

The evaluation instrument "directed work" includes both field and laboratory work. Attendance at such field and laboratory work is MANDATORY so that the corresponding percentage (40%) is considered.

To be able to overcome the subject with 5, all the items of evaluation will have to be of at least 5, to be able to be weighted for the final qualification.

The assistance to the field work and laboratory practices is OBLIGATORY, in order that it is considered to be the corresponding percentage (40 %).

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, R3, R4, R5, R6	30,00	1,20
PRACTICAL CLASSES M2	R1, R2, R3, R4, R5, R6	13,00	0,52
LABORATORY M3	R3, R4, R6	6,00	0,24
SEMINAR M4	R1, R4, R6	2,00	0,08
GROUP PRESENTATION OF ASSIGNMENTS M5	R2, R5	4,00	0,16
TUTORIAL M6	R2, R3, R5	2,00	0,08
ASSESSMENT M8	R1, R2, R3, R4, R5, R6	3,00	0,12
TOTAL		60,00	2,40

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK M9	R2, R3, R5	40,00	1,60
INDEPENDENT WORK M10	R1, R2, R3, R4, 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
UD 1.- KEY CONCEPTS FOR THE STUDY OF MARINE BIOLOGY AND BIOLOGICAL OCEANOGRAPHY	LESSON 1. The Marine Biology and the Biological Oceanography.
UD 2.- MARINE ORGANISMS	LESSON 2. Benthic organisms. LESSON 3. Pelagic organisms. LESSON 4. Biological forms and Life styles. Sampling methodology
UD 3.- ADAPTATIONS TO ENVIRONMENT ON MARINE ORGANISMS	LESSON 5. Adaptations to environmental factors LESSON 6. Dissolved gas, Organic Matter and Nutrients. LESSON 7. Light and hydrodynamics.
UD 4.- BIODIVERSITY AND MARINE COMMUNITIES	LESSON 8. Biological composition of benthic communities. LESSON 9. Biological composition of pelagic communities. LESSON 10. Benthic communities. LESSON 11. Pelagic communities.



Organization of the practical activities:

	Content	Place	Hours
PR1.	Adaptations to benthic life	Lecture room	1,00
PR2.	Feeding modes	Lecture room	2,00
PR3.	Biological and functional types	Lecture room	2,00
PR4.	Identification of benthic communities	Lecture room	2,00
PR5.	Boat trips: Pobla Farnals	Boat	2,00
PR6.	Shore excursion: Calpe (2 days)	Field visit	4,00
PR7.	Processing of collected samples. Description. Triage.	Laboratory	2,00
PR8.	Identification of the main groups / species.	Laboratory	2,00
PR9.	Selection of 2 species for a detailed, morphological and functional study.	Laboratory	2,00

Temporary organization of learning:

Block of content	Number of sessions	Hours
UD 1.- KEY CONCEPTS FOR THE STUDY OF MARINE BIOLOGY AND BIOLOGICAL OCEANOGRAPHY	2,00	4,00
UD 2.- MARINE ORGANISMS	10,00	20,00
UD 3.- ADAPTATIONS TO ENVIRONMENT ON MARINE ORGANISMS	7,00	14,00
UD 4.- BIODIVERSITY AND MARINE COMMUNITIES	11,00	22,00



References

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COMPLEMENTARY BIBLIOGRAPHY: Scientific articles related to the explained topics.