UAB
Universitat Autònoma de Barcelona

Survey of Natural Environment

Code: 100829
ECTS Credits: 6

2025/2026

Degree	Type	Year
Environmental Biology	FB	1

Contact

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Teachers

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

There are no prerequisites to follow the course successfully.

Objectives and Contextualisation

The goal of this subject is to be an introduction to the study of biodiversity through the direct exploration of the natural environment. So, the subject includes the learning of different techniques applied in the location and identification of organisms in their own environment. It is therefore a subject with a great dedication to field work through the prospection of different natural environments.
It allow a general vision to introduce students s in different sampling techniques from different groups of organisms (the knowledge of which will be deepened in other subjects) in different environments, as well as in the quantification of this diversity
They also include to work different methodological and transversal skills that will be useful for the subjects of the rest of the studies of Environmental Biology.

The most specific objectives of the subject are the following:

Know how to measure the diversity and richness of species and their spatial and temporal variability.
Learn that is necessary identify the different habitats previous to prospect a zone.
Recognize how environmental factors influence the diversity of species.
Know how to measure the spatial distribution of organisms.
Understand the concept of functional group.
Learn about the main techniques of terrestrial invertebrate sampling and the advantages and disadvantages of each one.
Know the main techniques of marine fauna sampling and the advantages and disadvantages of each one.
Recognize the main groups of terrestrial invertebrates and for insects recognize the main orders.
Recognize the main groups of marine animals in the Mediterranean coastline.
Recognize the main families of plants.
Recognize some of the most abundant seaweed and marine plants on the Mediterranean coast.
Recognize the most abundant trees and shrubs of the Mediterranean and mountain forests.
Learn how to correctly collect (preservation, labeling, etc.) the differentorganisms

Learning Outcomes

1. CM33 (Competence) Evaluate the temporal and spatial patterns and dynamics observed in communities of living organisms, relating them to factors of the natural environment in which they are found, and assessing the environmental impact of human activity.
2. CM34 (Competence) Act in accordance with the Sustainable Development Goals in managing and conserving the natural environment and promoting environmental sustainability.
3. CM35 (Competence) Effectively communicate to specialist and non-specialist audiences knowledge about natural environments and their responses to different factors.
4. KM40 (Knowledge) Define the concepts how living organisms organise in populations, communities and ecosystems in their natural environment, as well as interactions with the natural environment in which they are found and their responses to climate and environmental changes.
5. KM40 (Knowledge) Define the concepts how living organisms organise in populations, communities and ecosystems in their natural environment, as well as interactions with the natural environment in which they are found and their responses to climate and environmental changes.
6. KM40 (Knowledge) Define the concepts how living organisms organise in populations, communities and ecosystems in their natural environment, as well as interactions with the natural environment in which they are found and their responses to climate and environmental changes.
7. KM41 (Knowledge) Identify plant and animal species and communities using sampling techniques in both the terrestrial and marine natural environment.
8. SM42 (Skill) Apply sampling and mapping techniques in the natural environment to identify plant and animal organisms, ecologically characterise habitats and manage vegetation spatially and temporally.
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10. SM42 (Skill) Apply sampling and mapping techniques in the natural environment to identify plant and animal organisms, ecologically characterise habitats and manage vegetation spatially and temporally.
11. SM43 (Skill) Plan specific samples and experiments in different terrestrial and marine ecosystems for subsequent implementation.
12. SM44 (Skill) Prepare reports on the communities of living organisms in different natural environments, presenting them in both written and oral form.

Content

Concept of diversity, biodiversity and species richness and its quantification

Main plants, algae and fungi sampling techniques

Main various faunistic groups sampling techniques

Methodological bases for the organisms identification.

Methodological bases for the conservation and cataloging of organisms.

Basic statistical treatments of diversity censuses

Spatial and temporal variability effects of on biological diversity.

Effect of abiotic factors on species diversity at local and regional scale

Effect of the sampling effort on diversity measures: sampling design, calculation and interpretation of species accumulation curves

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Data analysis of field trip 1	6	0.24	
Data analysis of field trip 2	4	0.16	
Discussion of field trip 1 data	4	0.16	
Field trip 1	32	1.28	
Field trip 2	24	0.96	
Laboratoy of field trip 1	8	0.32	
Laboratoy of field trip 2	10	0.4	
Oral presentation discussion	4	0.16	
Preparation field trip 2	4	0.16	
Preparation filed trip 1	4	0.16	
Preparation of the oral presentation	3	0.12	
Type: Autonomous			
Study	15	0.6	
Team working	27	1.08	

This subject is organized with a totally practical character and is structured around two field trip with the following activities structure
1. Introductory session
2 Field trip (which includes evaluation activities)
3. Analysis of samples obtained in field
4. Data analysis
5. Evaluation activities
In addition there is a final evaluation that involves learning from both field trips

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Field notebook	10%	0	0	CM35, KM41, SM44
Final "visum"	20	1	0.04	KM41
Learning portfolio	15%	0	0	CM33, CM35, KM41, SM43, SM44
Oral presentation	25	3	0.12	CM33, CM34, CM35, SM42, SM44
Paper correction	30	1	0.04	CM33, CM35, SM42, SM43, SM44
Student observation guide	between -2 and +1 adding to the final note	0	0	KM40, KM41

Attendance at all field trips, laboratory and computer sessions are mandatory for overcome the subject.

First trip paper (30% of the final grade)

It will be done for each team of 4-5 people who have worked together in field and consist of a scientific article with the data obtained in the field work.

A first version of the work is corrected by the teacher and scored over 10. The results of the correction with some suggestions for improvement is communicated to the Students, Then the student can accept this first mark or they may voluntarily submit a second version to improve the mark The mark of the second version, which can not exceed three points of the first version, is the definitive mark

A final "visum" test (20% of the final grade)
The student finishes the subject with a list of organisms that he / she must know how to identify from "visu" At the end of the semester there will be a test written where it is necessary to recognize, from images or samples, some of these organisms.

Oral presentation related to the field trip 2 (25% of the final grade)

It will be necessary to make a small oral presentation of half an hour (including questions) for teams of 4 students who have worked together in the field highlighting the biodiversity observed in the studied area

Learning Portfolio (15% of the final grade)

This consists of the assessment of a series of tasks and learning evidence based on the work completed during field trips, laboratory sessions, or computer lab practices. These tasks can be carried out during the scheduled activities or later on independently outside of class time. Each student, individually or in a group, will prepare and submit them by the established deadlines. The teaching staff will provide information about each task well in advance so that students can plan their work accordingly.

Field Notebook (10% of the final grade)

This refers to a notebook where each student, individually, will take notes on observations or data, and include drawings or sketches related to what was observed during the two field trips. The notebook must be submitted after completing the *Visum* and will be assessed by the teaching staff.

Student observation guide (add a value between -2 and 1 to the note)
The aim of this observation guide is to identify if the students reach attitudinal competences (CT14, CT17, CT19 and CT20 in section 5) through the observation by the different teachers. The maximum negative grade will also be applied, depending on the criteria of teachers, in those cases of non-compliance with the basic rules of coexistence in field trips.

Minimum note to pass the subject

To pass the course, it is necessary to obtain a global average mark equal to or higher than 4,9 and a mark equal to or higher than 3.5 in paper, final visum, oral presentation and learning portfolio.

The students will obtain the grade of "Not Evaluable" when the evaluation activities carried out have a weight of less than 67% in the final grade

"The students will obtain the Not Evaluable" rating when your absence is greater than 20% of the scheduled sessions

Being an eminently practical subject and the fact that most of the assessments are in groups, it is impossible to apply any single assessment mechanism.

Bibliography

References

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Riedl R (2000) Fauna y flora del mar Mediterráneo. Omega, Barcelona.

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Townsend CR, Harper JL, Begon M (2003) Essentials of Ecology (2ª Ed.). Blackwell Science, Oxford.

web links:

Anthos. Sistema de información sobre las plantas de España. Fundación Biodiversidad y Real Jardín Botánico de Madrid (CSIC): http://www.anthos.es

Atles Climàtic Digital de la Península Ibèrica: http://www.opengis.uab.es/WMS/iberia/index.htm

Atles Climàtic Digital de Catalunya: http://www.opengis.uab.es/WMS/acdc/index.htm

Banc de dades de Biodiversitat de Catalunya: http://biodiver.bio.ub.es/biocat/homepage.html

Estimates: Biodiversity estimation. http://viceroy.eeb.uconn.edu/EstimateS

Flora Catalana: http://floracatalana.net

Flora Iberica: http://www.floraiberica.org/

Virtual Herbarium of the western Mediterranean : http://herbarivirtual.uib.es/

Herbari virtual de la UAB: http://blogs.uab.cat/herbari/

Software

R-Studio, Microsoft Ecel and EstimateS

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	211	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	212	Catalan	second semester	morning-mixed
(PCAM) Field practices	211	Catalan	second semester	morning-mixed
(PCAM) Field practices	212	Catalan	second semester	morning-mixed
(PCAM) Field practices	213	Catalan	second semester	morning-mixed
(PCAM) Field practices	214	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	211	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	212	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	213	Catalan	second semester	morning-mixed
(TE) Theory	21	Catalan	second semester	morning-mixed