COURSE DATA

Data Subject	
Code	33081
Name	Zoology
Cycle	Grade
ECTS Credits	6.0
Academic year	2024 - 2025

Study (s)

Degree	Center	Acad. year	Period
1104 - Degree in Environmental Sciences	Faculty of Biological Sciences	1	Second term

Subject-matter

Degree	Subject-matter	Character
1104 - Degree in Environmental Sciences	119 - Zoology	Basic Training

Coordination

Name	Department
BAIXERAS ALMELA, JOAQUIN	355 - Zoology
PEREZ DE LANUZA, GUILLEM	355 - Zoology

SUMMARY

The theme fits inside the Module of Scientific Bases of the Natural Environments (Module 2 of the degree in Environmental Sciences). It pretends to give a basic training in the knowledge of the animal form, function and diversity with special reference to those aspects with relation to conservation. The theme gives emphasis to the importance of the adaptations in correlation with the specially diverse zoological groups. They are basic and general appearances of the theme: models of animal organization, classification and animal phylogeny, bionomy, and diversity, (diblastics, protostomates, Ecdysozoan, Lophotrocozoan, deuterostomates, vertebrates).

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1104 - Degree in Environmental Sciences

- Have capacity for analysis and synthesis and for critical reasoning.
- Be able to communicate orally and in writing.
- Be able to use new information and communication technologies.
- Be able to work in a team.
- Be sensitive to environmental issues.
- Acknowledge fundamental rights and equality between men and women, respect and promote human rights and the principles of universal accessibility and design for all, and respect democratic values.
- Master basic general knowledge in the branch of science.
- Be able to integrate experimental evidence found in field and/or laboratory studies with theoretical knowledge.
- Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.
- Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

- Integrative understanding of animal biodiversity and its interaction with the natural environment
- Knowledge and control of the procedures to estimate and interpret biodiversity.
- Integrative understanding of animal biodiversity and its interaction with the natural environment.
- Carrying out monitoring of plants and animals and estimating biological diversity at different levels
- Recognition of the main plant and animal groups and the most characteristic species of Mediterranean ecosystems.

DESCRIPTION OF CONTENTS

1. General zoology

Lesson 1. Definition and concept of animal.
Lesson 2. Animal form analysis: animal models.
Lesson 3. Ontogeny and phylogeny: animal origin and classification of the animals.
Lesson 4. Zoological Nomenclature.

2. Invertebrate Zoology

Lesson (1)5. Diblastics I: poriferans
Lesson (2)6. Diblastics II (Radialia): cnidarians
Lesson (3)7. Acoelomates: flatworms.
Lesson (4)8. Pseudocelomates: nematodes
Lesson (5)9. Metameric celomates: annelids.
Lesson (6)10. No metameric celomates: mollusks
Lesson (7)11. The arthropod model. Chelicerates
Lesson (8)12. Myriapods and crustaceans
Lesson (9)13. Hexapods
Lesson (10)14. Echinoderms

3. Vertebrate Zoology

Theme (1)15. Chordate model and the evolution of vertebrates. Fishes
Theme (2)16. Amphibians
Theme (3)17. Reptiles
Theme (4)18.Birds
Theme (5)19. Mammals

4. Laboratory classes of Zoology

Laboratory class 1. Models of animal organization.
Laboratory class 2. Diblastics (poriferans i cnidarians).
Laboratory class 3. Acoelomates and Pseudocelomates (flatworms and nematodes).
Laboratory class 4. Annelids.
Laboratory class 5. Mollusks.
Laboratory class 6. Arthropod generalities.
Laboratory class 7. Hexapods.
Laboratory class 8. Fishes.
Laboratory class 9. Amphibians and reptiles.

5. Field excurssion

Field excursion jointly with Botany. A five hours trip through the Nature Reserve of La Albufera. Special relevance will be given to the observation of animals in the wild: bird observation, animal imprints, insect-plant relations, fauna management in a nature reserve...

The field work (last activity of the subject) represents a synthesis of laboratory practices and many of the issues discussed in the theory of the two subjects involved. Students should be prepared for an active participation in which botanical and zoological information is integrated.

6. Invited lecture

Attendance to a conference given by an expert (nonmember of the UVEG) about a technical subject related to management and conservation of fauna.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	35,00	100
Laboratory practices	23,00	100
Tutorials	2,00	100
Development of group work	10,00	0
Readings supplementary material	8,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	40,00	0
Preparation of practical classes and problem	20,00	0
Resolution of online questionnaires	2,00	0
TOTAL	**150,00**	

TEACHING METHODOLOGY

1. Lectures
Participatory classes where the professor gives a brief summary of the fundamental concepts of each of the topics, using appropriate audio-visual resources that as long as the regulations permit will be accessible to the students through the web platform. The students will be oriented on the appropriate literature and resources to be used for further study of the concepts and the same will correlate with the themes of workshops and seminars as part of the programming of the course will be directed. Attendance at these classes is required and faculty reserves the right to establish controls assistance where appropriate. The order in which they appear in the description of contents may not correspond to the order in which they are taught.

2. Practical classes

A series of nine sessions in the laboratory and in the field. In laboratory classes students work with animal samples. This is to address issues of interpretation of the animal form and function, taxonomic identification of the main animals and animal work methodology (sampling, conservation ...) groups.
The field trip is organized together with the subject of botany. A five hours tour by the PN of Albufera of Valencia. Birdwatching, trails animals, insect-plant relationships, management of wildlife in a protected area: special importance to the observation of animals in the wild was granted. Field practice (last contact activity of the subject) represents a synthesis of the labs and many of the issues addressed in the theory of the two subjects involved. Students should be prepared to participate actively in integrating botanical and zoological information.
Both in the practical field and in the laboratory stringent safety rules were observed at work in accordance with current regulations. Students should always follow the directions of teachers and technical personnel associated with the subject.

3. Seminars

The topics of the seminars are prepared by the students under the supervision of a professor. At the beginning of the course groups of 2-3 students can choose from a list of topics the opportunity to prepare and defend an essay and seminar in the classroom to their peers. The presentation of these essays and seminars is voluntary, but attendance at these is compulsory. Given limited to 5 hours of seminars and considering that they can defend themselves between 2 and 3 per hour seminars, it may be provided a list of 12 to 15 seminar topics. It may also propose an original subject as long as it is approved by the faculty. The topics and time availability shall be elected by order of reservation.

4. Supervisions

The supervision meetings constitute the space for discussion of the course. Some hours of supervision will be used to solve problems of zoological nomenclature, preparation of the activity about the Data bank of Biodiversity and central aspects of Zoology. They will have associated evaluation questionnaires. The third of the hours will include discussion of practical aspects and will be associated with going out to the field.

5. Complementary activity
In addition, the course includes in the program attending a seminar, conference or talk. This seminar will be given by an expert normally external to the University and will be related to aspects of zoology such as wildlife management, conservation, or study tools. The evaluation of this activity will be carried out by presenting a conference summary and/or exercises related to the theme of the talk.

6. Theoretical and practical exams

As part of its methodology, the subject integrates level tests to monitor student performance

EVALUATION

The evaluation of the subject will be based especially on **tests on the content of the subject which constitute in total 90% of the evaluation**. It includes a theoretical content exam, a practical content exam and knowledge tests attached to the tutorials. Apart from this exploration of knowledge, **a complementary theoretical-practical activity is proposed with a 10% follow-up exercise**. Optionally, a paper with a seminar defense. Penalties may be applied to this qualification in case of non-compliance with the activities provided for in this teaching guide.

Examination of theoretical contents

A test for the evaluation of knowledge and acquisition of skills through theoretical contents. The evaluation will represent 45% of the final grade. Passing this exam is mandatory: it is necessary to pass this exam (50% of mark) to pass the theme.

Examination of practical contents

A test for the assessment of knowledge and acquisition of skills through practical content. Your evaluation will represent 40% of the final grade. It will include the valuation of the field trip. Passing this exam is mandatory: it is necessary to pass this exam (50% of mark) to pass the theme.

Complementary activity

Students must complete an exercise corresponding to the invited lecture about the Data Bank of Biodiversity. The activity will be completed through the Aula Virtual. The evaluation will represent 10% of the final grade.

Tests of knowledge

There will be one/two tests of progress through Aula Virtual. They will represent a total of 5% of the final grade,

Presentation of an essay and seminar

The seminar is organized in groups of students (up to three students). It will be defended through a presentation in electronic format for 15-20 minutes in the classroom, followed by a 5-minute discussion. It will be accompanied by a written work presented before the presentation of the seminar. As a rule, the qualification of the seminar, evaluated under rubric, will be given on to all students of the group that has made the seminar and may involve an improvement of up to 2 points in the overall score of the subject. In case of exceeding the maximum score of 10 points, the students will opt for qualification with honors, even in preference to those having obtained the qualification by exam.

Advance call

To request the advance call of this subject, the student must take into account that he / she must have completed the compulsory activities indicated in the teaching guide of the subject. Specifically, those students who avail themselves of the advanced call modality (CG, February 19, 2015) must certify that they have participated in the classroom activities of "Laboratory Practices" and have passed them at the time.

Calls

Students have each course two examination sessions (theory + practices). To pass the course it is necessary to pass the theory and practice exams separately, they are eliminatory tests. The rest of the activities do not have a passing threshold and only compute if the theory and practical tests have been passed. The student must be aware that given that theory and practices add up to 85% of the final grade for the subject, an adjusted grade in the exams with a very low grade in the rest of the activities can also imply failure. These activities can only be rated during the course itself and are not subject to improvement or recovery. On second call, therefore, the student should obtain a sufficient theory and / or practical qualification to compensate for this deficiency.

A student will be considered as 'not presented' if he / she has not participated in any of the activities of the subject. Therefore, not presenting to the objective test / exam of the subject will not automatically imply the consideration of not being presented in the subject. The theoretical and practical tests must be independently passed with a qualification equivalent to 50% of the maximum imputable in each of them. The grades of any of the sections will be saved for the second call, but grades between courses will not be reserved in any section.

Control of attendance and penalties

Classroom activities in the teaching guide are obligatory. Attendance controls will be established in practice activities, tutorials, seminars, lecture and exams (35 hours). To disregard the attendance to these activities, the delivery of works, monitoring of grades and in general any commitment that marks the calendar of the subject will be interpreted as lack of interest on the part of the student and will generate penalization on the final grade, being able to contribute to a bad evaluation, even to the suspense.

The attendance to practices and tutorials will be computed only in the subgroup in which the student is enrolled. The subgroup change will only be accepted under specific request and will be subject to the availability of space. This will be especially taken into account in the case of practices, in which the capacity may be limited for security reasons. The absences of attendance due to major cause, duly documented, will be exempt from penalty, but will not give right to recovery of the lost activity; they do not imply content exemption. The teaching team, through the Virtual Classroom, will establish the details and procedures to control attendance. It is expected that the student anticipates situations that may affect the follow-up of the calendar of the subject. As a rule, one unjustified assistance and one unjustified group change will be accepted without penalty and a follow-up of 90% of attendance hours will be considered sufficient. The following is an indicative list of penalties:

- 90-70% compliance with the hours will imply the loss of 0.5 points of the final grade
- 70-50% will imply the loss of 1 point of the final grade
- Assists below 50% will imply the loss of 2 points of the final grade.

Plagiarism detection

The students of this university expect maximum honesty in the performance of works, which are always considered original. Special mention should be given to the copying or reproduction of text and iconography of others in the work carried out by the students. The ease of access to materials and information on the Internet represents a great advantage, but at the same time they represent a problem if these materials are reproduced verbatim ("copy / paste"). The UVEG faculty has electronic tracking tools for this type of behaviour. Given that these activities not only affect the student's honesty, but also are illegal and affect the University as a whole, they can be subject to harsh sanctions that go beyond the evaluation framework of the subject.

REFERENCES

Basic

- Hickman, C.P., Keen, S.L., Eisenhour, D.J., Larson, A. y LAnson, H. 2021. Principios Integrales de Zoologia. Mc-Graw-Hill. 18ª Edición.

Additional

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- Brusca, R.C. & Brusca, G.J., 1990, Invertebrates. Sinauer.
- Dorit, R.L., Walker, W.F. & Barnes, R.D., 1991, Zoology. Saunders College Publishing.
- Kardong, K.V., 1995, Vertebrates. Comparative Anatomy, Function and Evolution. WCB.
- Michelena, J., Lluch, J. & Baixeras, J., 2004, Fonaments de Zoologia. Universitat de Valéncia.
- Nielsen, C., 1995, Animal Evolution. Interrelationships of the Living Phyla. Oxford University Press.