COURSE DATA

DATA SUBJECT

Code: 43239
Name: Biology and conservation of mammals
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period

SUBJECT-MATTER

Degree	Subject-matter	Character

COORDINATION

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SUMMARY

Biology and Conservation of Mammals is a subject of the Master's Degree: "Biodiversity: Evolution and Conservation", of 3 ECTS credits. Mammals are one of the zoological groups with the greatest popularity and social projection. In addition, many of their species are particularly sensitive to environmental changes, which is why they represent one of the most prominent elements of conservation programmes. Both aspects give rise to a great demand, both social and political, for research and management of species of this group of vertebrates. This subject is structured according to a primary objective: to provide tools to be able to carry out a faunal inventory of mammals in a given area. However, it is intended to strike a good balance between academic aspects (the study of ecology and adaptation) and applied aspects (the drawing up of inventories), as indicated in the White Book of the Degree in Biology (ANECA, 2004). In this way, the aim is to respond to the growing demand for experts capable of carrying out work in environmental consultancy, management and conservation of protected areas, environmental education, environmental impact assessment, etc.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

In order to study Biology and Conservation of Mammals it is essential to enrol simultaneously in the subject Biology and Conservation of Birds, since a large part of the activities are shared by both subjects.

COMPETENCES / LEARNING OUTCOMES

2148 -

Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.

Be able to access to information tools in other areas of knowledge and use them properly.

Encourage ethical commitment and environmental awareness.

Stimulate the capacity for critical reasoning and for argumentation based on rational criteria.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should demonstrate self-directed learning skills for continued academic growth.

DESCRIPTION OF CONTENTS

1. Presentation and justification of the module.

In this first class, the objectives of the course and the dynamics and way of working are presented.

2. Diversity of mammals in Spain: Main groups. Distinguishing characteristics: tracks, footprints and activity remains.

In this topic, the most relevant aspects of diversity and general methods of identification of mammals are presented in a succinct and integrated way.

3. Training classes of indirect identification

This is a series of practical classes in the classroom in which problem situations are posed on the basis of photographs so that students have to identify mammals from their signs, according to the instructions given in the previous classes. For this purpose, identification guides and keys are used, as well as specific internet tools (http://www.uv.es/zoobot).

4. Laboratory (1): identification of mammals by vocalisations

In this practice, students are trained, through problem situations, to identify the species of mammals that produce vocalisations through the discard method using different sources of information.

5. Laboratory (2): identification and analysis of scats

In this practical, the students:

1) Identify scats from their morphology and additional data (location, locality), using specific bibliography.

2) Analyse the content of the diet from diagnostic remains, with the help of identification keys and guides.

3) As this is a comparative exercise (using droppings from several species, or from the same species in different geographical areas), the factors determining the diet of mammals are discussed. Particular emphasis is placed on constrictions, natural selection (through optimal foraging theory) and individual variation (animal personalities).

6. Field trips

During the course there are 3 field trips to practice identifying mammals by direct observation or signs:

(1) Urban environment (usually on the university campus itself),
(2) Wetlands (usually a marsh near Valencia),
(3) A field trip lasting several days in an environment with a diversity of environments (e.g. Serranía de Cuenca).

The destination of the field trips may vary from one course to another.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Total hours	**0,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	10,00
Independent study and work	0,00
Preparation of lessons	5,00
Preparation for assessment activities	15,00
Resolution of case studies	15,00
Total hours	**45,00**

TEACHING METHODOLOGY

As mentioned above, this subject is taught together with \"Biology and Conservation of Birds\", therefore the teaching methodology is adapted to a 6 ECTS course. Four groups of tasks are envisaged. In the first group, the most relevant aspects of diversity and general methods of identification of mammals will be presented in a succinct and integrated way. This subject will be taught by the lecturer using a combination of two strategies: lecture (with the support of different audiovisual aids) and teaching by problems. Special emphasis will be placed on this second methodology, presenting species identification problems that students will have to solve in class. The aim is for students to actively explore, discover and understand. In addition, the discussion of the problems will encourage student participation. Students will also work on the identification of mammal species through direct identification and inferences based on the observation of clues. Deductive reasoning from fragmentary or incomplete information will be encouraged.

The second group of tasks are the 2 laboratory practicals. In the first one, students will acquire skills to identify mammals by means of vocalisations. For this, phonographic material will be used, and useful principles will be worked out in order to achieve a correct determination, even for the beginner. In the second, the student will attempt to carry out an analysis of the diet of mammals based on food remains (excrements). This task will enhance both the identification and quantification of the prey fauna (e.g. micromammals in an area using their skeletal remains and hair), and the predator. Again, the work will be considerably inferential, and will not be limited to developing observation skills alone. Several sources of information will need to be used in order to arrive at correct diagnoses.

The third group of tasks includes 3 field trips, which will aim to identify, by direct and indirect methods, mammals in real contexts, selecting selected habitats (a good representation of habitats has been sought). Binoculars, spotting scopes and identification guides will be used for daytime observation of mammals. These activities will be complemented by searching for and identifying mammal tracks on all outings. Students will be asked to formulate one or more questions that have been raised by the observations made during the field trips.

All activities (training classes, practical classes and field trips) carried out during the course must be recorded in an individual field notebook to be handed in at the end of the course. For the preparation of the field notebook it is advisable: (1) not to limit oneself to a mere list of species or tracks observed. It is advisable to make a succinct description of the observation (place, time, diagnostic features, behaviour observed); (2) use diagrams and drawings to complement the records; (3) make notes on the comments and discussions raised in situ by the observations; and (4) include at least some questions, reflections or personal enquiries about the observations made.

The fourth set of tasks will focus on students, in groups of 3-5 students, briefly developing an original idea that solves or improves an aspect of bird and mammal conservation. This idea will follow a format already established by ADEIT-UV to promote entrepreneurship in the area of biodiversity, which includes the completion of a form and the production of a 1-minute video. The whole process will be tutored by the teaching staff of the subject.

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EVALUATION

The evaluation of the course will be carried out by means of the following procedures:

1) Attendance and use of the classes. Attendance at **practical classes** and **field trips** will be **compulsory**. A record of attendance will be kept to evaluate the use made of the classes.

2) Development of the **original idea** and the associated **video**: (25% overall mark). In accordance with the MOTIVEM competition calendar, each group will have to hand in the original idea and the video. The teachers will share all the ideas in the last session of the course.

3) **On-site exam** on the contents of the field notebook (75% overall mark). At the end of the course the student will have to carry out, with the help of his/her own field notebook, a short test containing questions or tasks at three levels: (1) species that have been observed at a certain point; (2) theoretical contents that have been discussed in relation to the observations, both in the field trips and in the practicals; (3) own questions on the activities of the course.

In order to pass the course, it is essential to (1) obtain a **minimum score of 5** out of 10 in the **task \\\\" elaboration idea + video\\\\"**; (2) **present the field notebook** and (3) **pass the exam** (minimum score of 5 out of 10).

Only **excused absence** from a laboratory practical or training class will be allowed. In cases of force majeure, specific solutions will be found.

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