UAB
Universitat Autònoma de Barcelona

Animal Behaviour

Code: 100835
ECTS Credits: 6

2024/2025

Degree	Type	Year
2500251 Environmental Biology	OT	4

Contact

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Teaching groups languages

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

Prerequisites

There are no mandatory prerequisites, but it is important to have a good background knowledge in zoology and ecology.

Objectives and Contextualisation

In this course the student will acquire knowledge about the proximate and ultimate evolutionary mechanisms of animal behaviour. We will explore the many facets of behavioral ecology through the analysis of hypothesis-driven research, integrating the study of behaviour with related disciplines such as ecology, genetics, physiology and conservation. The students will learn how to critically interpret recent studies in the field. In addition, we will explore different research methodologies and the students will learn how to plan experiments and write a research proposal in animal behaviour.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and interpret the behaviour of living beings.
- Describe, analyse and interpret the vital adaptations and strategies of the principal groups of living beings.
- Develop planning and organisation skills.
- Identify and interpret the diversity of species in the environment.
- Introduce changes in the methods and processes of the field of knowledge to provide innovative responses to the needs and demands of society.
- Obtain information, design experiments and interpret results.
- Recognise and analyse phylogenetic relations.
- Solve problems.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

Learning Outcomes

1. Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
2. Actuar en l'àmbit de coneixement propi avaluant les desigualtats per raó de sexe/gènere.
3. Analyze quantitatively and interpret the evolutionary and functional meaning of animal behavior
4. Develop planning and organisation skills.
5. Interpret the distribution and the interactions of animal species in the environment and their impact on animal diversity.
6. Interpret the evolutionary processes that have led to animal diversity.
7. Introduce changes in the methods and processes of the field of knowledge to provide innovative responses to the needs and demands of society.
8. Obtain information, design experiments and interpret results.
9. Recognise the characteristics of the environment that determine the distribution of the principal animal groups.
10. Solve problems.
11. Take account of social, economic and environmental impacts when operating within one's own area of knowledge.

Content

Theme 1: The scientific method and hypothesis driven research
Theme 2: The integrative study of behavior
Theme 3: The developmental and genetic bases of behavior
Theme 4: The neural basis of behavior
Theme 5: The physiological basis of behavior
Theme 6: Avoiding predators and finding food
Theme 7: Territoriality and migration
Theme 8: Learning and cognition
Theme 9: Principles of communication
Theme 10: Reproductive behavior
Theme 11: The evolution of different mating systems
Theme 12: Parental care
Theme 13: The evolution of social behavior and sociality
Theme 14: Tool-use in animals
Theme 15: Cultural evolution
Theme 16: Animal welfare
Theme 17: Human behavior

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Masterclass	30	1.2	1, 2, 3, 5, 6, 7, 8, 9, 11
Practical session	15	0.6	1, 2, 3, 4, 7, 8, 10, 11
Type: Supervised			
Experiment	20	0.8	1, 2, 3, 4, 6, 7, 8, 10, 11

Type: Autonomous			
Mandatory readings	10	0.4	5, 8
Study	71	2.84	4, 6, 10

- Theoretical classes with the proposed themes in animal behaviour.
- Practical sessions where we will conduct experiments, proving different topics/hypotheses in animal behaviour such as associative learning, optimum foraging theory, game theory etc. In the last practical we will do a technical visit to the Zoo of Barcelona. If there will be enough interest, we will have one group of practicals carried out in English.
- Propose a hypothesis, plan experiments and write a research project in animal behaviour. A core part of the course is teaching the students how to critically assess and carry out research in the field. It will consist in writing a research project in group (3-4 people) that will be presented at the end of the course (before the final exam).
- Reading classical and recent research articles in animal behaviour.

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
Experiment	40%	0	0	1, 2, 4, 5, 6, 7, 11
Practical session	20%	0	0	1, 2, 3, 4, 7, 8, 9, 10, 11
Test	40%	4	0.16	1, 2, 3, 4, 5, 6, 7, 8, 10, 11

1) An exam with multiple choice as well as written questions covering the theoretical and practical part of the course (40% of the grade).

2) Research proposal (20 % of the grade written part, 20% of the grade presentation).

3) Practicals (20% of the grade). Attendance to all laboratory, field, and bioinformatic sessions is mandatory. Students will be graded as "Not Evaluable" when the absence exceeds 20% of the scheduled sessions.

4) There is constant evaluation during this course, and during the theoretical classes I will ask questions in the form of online quizzes that may increase the final grade with a maximum of one extra point.

A minimum grade of 3.0 out of 10 is required for both the exam and the research project. The minimum overall grade required to be approved in the course is 5 out of 10.

To participate in the final exam, students must have been previously evaluated in a set of activities, the weight of which is equivalent to a minimum of two thirds of the total grade of the subject or module. Therefore, students will obtain the grade "Not Assessable" when the evaluation activities carried out have a weighting of less than 67% in the final grade.

Single evaluation:

The students who take advantage of the single evaluation must carry out the laboratory practices (PLAB) in in-person sessions and it is a requirement to have them approved and they will have a weight of 20%.

The single evaluation consists of a single written exam (with multiple choice questions and some open-ended questions) on the contents of the entire theory programme.

The grade obtained in the synthesis exam is 40% of the final grade for the subject and that obtained in the practicals is 20% with the remaining 40% for the research project.

The single evaluation exam will be done coinciding with the same date set in the calendar for the last continuous evaluation exam and the same recovery system will be applied as for the continuous evaluation.

Bibliography

Rubenstein, D. and J. Alcock (2018). Animal behavior: an evolutionary approach, Sinauer Inc., Sunderland, Massachusetts.

Davies, N. B., et al. (2012). An introduction to behavioural ecology, John Wiley & Sons.

Kappeler, P. M. (2021). Animal behaviour : an evolutionary perspective / Peter M. Kappeler. Cham, Switzerland, Springer.

Manning, A. and M. S. Dawkins (2012). An introduction to animal behaviour, Cambridge University Press.

Carranza Almansa, J., et al. (2010). Etología. Introducción a la ciencia del comportamiento, Universidad de Extremadura, Servicio de Publicaciones.

La docència virtual ha posat de manifest la importància de poder disposar de recursos online. Durant aquests mesos les editorials han posat en obert molt contingut, i que a més es disposa de la plataforma a prova de llibres digitals (50.000 llibres accessibles - https://mirades.uab.cat/ebs/).

En aquest enllaç, trobareu una infografia que ha preparat el Servei de Biblioteques per facilitar la localització de llibres electrònics: https://ddd.uab.cat/record/224929

http://www.uab.cat/doc/BibliografiaCursDigital

Software

During the bioinformatics practical session, we will use the free software R. The student is not required to buy the license of any software.

Language list

Name	Group	Language	Semester	Turn
(PCAM) Field practices	241	Catalan/Spanish	second semester	morning-mixed
(PCAM) Field practices	242	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	241	Catalan/Spanish	second semester	afternoon

(PLAB) Practical laboratories	242	Catalan/Spanish	second semester	afternoon
(TE) Theory	24	Spanish	second semester	morning-mixed