UAB
Universitat Autònoma de Barcelona

Behavioural Physiology

Code: 100805
ECTS Credits: 6

2024/2025

Degree	Type	Year
2500004 Biology	OT	4

Contact

Name: Albert Quintana Romero

Email: albert.quintana@uab.cat

Teachers

Laura Cutando Ruiz

Francisco Javier Carrasco Trancoso

Albert Quintana Romero

Teaching groups languages

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

Prerequisites

Have approved the subject of Neurophysiology and Endocrinology

Objectives and Contextualisation

Know the basic concepts of ethology and the theoretical basis of different aspects of behavior in animals and humans

Know the neurobiological substrate that regulates behavior in animals and humans

Identify the keys of the behavior and understand the physiological mechanisms of regulation of the same

Train the student to understand the biological basis of behavioral alterations in animals and humans

Acquire the practical skills necessary to understand, program and carry out experiments related to the physiological regulation of behavior.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and interpret the origin, evolution, diversity and behaviour of living beings.
- Be able to analyse and synthesise
- Be able to organise and plan.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- 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. Analyse a situation and identify its points for improvement.
2. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
3. Be able to analyse and synthesise.
4. Be able to organise and plan.
5. Critically analyse the principles, values and procedures that govern the exercise of the profession.
6. Identify, enumerate, describe, interpret, explain and summarise the neuro-endocrine bases of animal behaviour.
7. Propose new methods or well-founded alternative solutions.
8. Propose projects and actions that incorporate the gender perspective.
9. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
10. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
11. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
12. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
13. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
14. Take account of social, economic and environmental impacts when operating within one's own area of knowledge.

Content

1. Foundations of behavioral research

2. Structure and function of the Nervous System

3. Methods and Strategies of Research

4. Neuroendocrine modulation of behavior

5. Sleep and Biological Rhythms

6. Motivation and reinforcement

7. Ingestive Behavior

8. Social behavior

9. Neurobiology of aggressive behavior

10. Reproductive and Parental Behavior

11. Learning and Memory

12. Alterations of behavior

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory Practices	12	0.48	14, 5, 2, 1, 7, 12, 11, 9, 10, 3, 4
Seminars	8	0.32	14, 5, 2, 1, 6, 7, 8, 13, 12, 11, 9, 10, 3, 4
Theoretical classes	32	1.28	14, 5, 2, 6, 13, 9, 10, 3, 4
Type: Supervised			
Tutorial	5	0.2	5, 13, 10, 3, 4
Type: Autonomous			
Problem resolution and analysis of data	28	1.12	14, 5, 2, 11, 9, 10, 3, 4
study	60	2.4	5, 2, 1, 6, 13, 12, 9, 10, 3, 4

Theoretical classes:

Systematized exposition of the content of the subject, giving special relevance to the concepts related to the behavior (since they constitute the basis of what will be regulated), to the evolutionary flexibility of the behavior and to the biological mechanisms and areas of the nervous system involved in the regulation of normal and pathological behavior.

Seminars and problems:

Preparation and discussion of topics related to psychiatric pathologies

Practices:

Understanding and realization of various animal models (in rodents) with translational value in psychiatry. The experimental results obtained will be analyzed and discussed.

Tutorials:

They will be done in a personalized way in the teacher's office (hours to be arranged) or collectively at scheduled times. Their objectives are to clarify doubts and concepts.

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
Laboratory Practices	15%	1	0.04	14, 5, 2, 1, 6, 7, 8, 13, 11, 9, 10, 3
Seminars	15%	2	0.08	14, 5, 2, 1, 6, 7, 8, 13, 12, 11, 9, 10, 3, 4
Theoretical classes	70%	2	0.08	14, 5, 2, 6, 13, 12, 9, 3, 4

The evaluation will be based on theoretical exams (essay questions), seminars, and practical classes. Their contribution to the overall grade will be 70%, 15%, and 15% respectively. Theory, seminars, and practicals will be assessed separately. A minimum score of 4 is required in each part to pass the subject. There will be two partial exams for the theory, each of which must be passed independently with a minimum score of 4 for them to be averaged. In the final exam: (a) if a student takes one part of the subject, they must pass it independently of the grade obtained in the other part; (b) if the student takes the entire exam, the overall grade will be considered.

Attendance at practical sessions is mandatory. Students will receive a "Not Assessable" grade if their absence exceeds 20% of the scheduled sessions. To participate in the re-sit exams, students must have previously been assessed in a set of activities whose weight is equivalent to at least two-thirds of the total grade for the subject or module. Therefore, students will receive a "Not Assessable" grade if the assessment activities they have completed account for less than 67% of the final grade.

Practicals, seminars, and theory will be assessed separately.

The subject adheres to a single evaluation system, which will consist of an exam covering theory and seminars. Attendance at practicals is mandatory, and they will be assessed in the same way as in continuous assessment. The theory evaluation will consist of at least 5 essay questions, and the seminar evaluation will consist of one essay question. The theory exam contributes 70% of the total grade, and the seminar exam contributes 15%.

Bibliography

Eibl-Eibesfeldt I: Etología: introducción al estudio comparado del comportamiento, Ediciones Omega, Barcelona, 1979 (lecture book to understand ethology)

Carlson NR and Birkett MA: Physiology of Behavior, 12 ed., Pearson, 2017 (*)

Kalat JM: Biological Psychology, 10 ed., Cengage Learning, 2018 (*)

Breedlove SM, Watson NV, Rosenzweig MR: Biological Psychology: an introduction to behavioral, cognitive and clinical neuroscience, 10 ed., Sinauer Assoc., 2010

Squires LR et al: Fundamentals Neuroscience, Elsevier, 2013 (*).

Kandel ER et al: Principles of neural science, McGraw Hill, 2013 (*)

(*) electronic access

Software

We do not use any software

Language list

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	141	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	141	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	142	Catalan/Spanish	second semester	afternoon
(TE) Theory	14	Catalan	second semester	morning-mixed