Physiological Psychology II

Code: 102546
ECTS Credits: 6

2025/2026

Degree	Type	Year
Psychology	OB	2

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Teaching groups languages

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

Prerequisites

There are no prerequisites, but the knowledge acquired in the first year of the Degree in Psychology (Foundations of Psychobiology I, II) is assumed. It is advisable to have knowledge of English.

Objectives and Contextualisation

The general objective of the subject is to learn about the biological bases of sleep and waking, motivated behaviors, emotions, and learning and memory processes.

At the end of the course, students will be able to do the following:

1. To explain the neurobiological basis of sleep and wakefulness rhythms, the functions of sleep and some sleep disorders.
2. To explain the neurobiological basis and functions of the reward system. To describe the neurobiological changes associated with addictive behavior.
3. To describe the neural and hormonal control of different motivated behaviors such as hunger, sexual and parental behaviors.
4. To explain the neurobiological basis of emotions and their implications in health.
5. To explain the neurobiological basis of learning and memory processes.

6. To describe and interpret figures and findings from neuroscientific articles relevant to the subject matter of the course.

Competences

- Analyse scientific texts written in English.
- Identify, describe and relate the biology of human behaviour and psychological functions.
- Identify, describe and relate the structures and processes involved in basic psychological functions.
- Maintain a favourable attitude towards the permanent updating through critical evaluation of scientific documentation, taking into account its origin, situating it in an epistemological framework and identifying and contrasting its contributions in relation to the available disciplinary knowledge.
- Recognise the determinants and risk factors for health and also the interaction between people and their physical and social environment.
- 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.
- Use different ICTs for different purposes.

Learning Outcomes

1. Analyse scientific texts written in English.
2. Analyse the influence of the determinant physical and social factors on neurobiology of mental processes for the purpose of understanding the bases of health psychology.
3. Describe the changes in the in sleep-wake rhythms in relation to changes in the underlying neurophysiological and neurohormonal mechanisms.
4. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms in motivated behaviours.
5. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms involved in emotions.
6. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms involved in learning from memory.
7. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms involved in the rhythms of sleep and wakefulness.
8. Evaluate the contributions of a psychobiological approach to advancing understanding of the rhythms of sleep and wakefulness.
9. Evaluate the contributions of a psychobiological approach to advancing understanding of the rhythms of the neurobiological basis of learning and memory.
10. Evaluate the contributions of a psychobiological approach to advancing understanding of the rhythms of the neurobiological basis of motivated behaviours (hunger, thirst, sexual and parental behaviour).
11. Evaluate the contributions of psychobiological approach to advancing understanding of neurobiological basis of emotion.
12. Evaluate the interrelationship between the neurobiological, educational and social approaches to explaining normal and pathological human behaviour.
13. Identify and recognise the mutual interaction between the physical and social environment of the person and the genetic, hormonal and neural factors that affect health.
14. Maintain a favourable attitude towards the permanent updating through critical evaluation of scientific documentation, taking into account its origin, situating it in an epistemological framework and identifying and contrasting its contributions in relation to the available disciplinary knowledge.
15. Relate neuroanatomical, neurophysiological and neurohormonal alterations with disorders of sleep-wakefulness rhythms.
16. Relate neuroanatomical, neurophysiological and neurohormonal alterations with motivated behavioural disorders.

17. Relate neuroanatomical, neurophysiological, neurohormonal, and genetic alterations with emotional disorders.
18. Relate neuroanatomical, neurophysiological, neurohormonal, and genetic alterations with learning and memory disorders.
19. Relate sleep-wake rhythms to their neuronal bases and neurophysiological, hormonal and genetic underlying mechanisms.
20. 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.
21. 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.
22. Use different ICTs for different purposes.

Content

Unit 1. SLEEP and WAKING

1. Circadian rhythms

2. Behavioral and physiological characteristics of sleep and waking

3. Neural mechanisms

4. Functions of sleep

Unit 2. REWARD

1. Motivational systems

2. Neural mechanisms of reward systems

3. Addiction

Unit 3. HUNGER

1. Digestion and metabolism

2. Peripheral regulation of mechanisms of eating

3. Neural control of eating

Unit 4. SEXUAL AND PARENTAL BEHAVIORS

1. Sex hormones: organization and activation effects

2. Pheromones

3. Neural control of sexual behavior

4. Parental behavior

Unit 5. EMOTIONS

1. Nature of emotions and feelings

2. Functions of emotions

3. Neural control of emotions

Unit 6. LEARNING AND MEMORY

1. Nature of learning and memory

2. Synaptic plasticity

3. Implicit learning and memory

4. Explicit learning and memory

5. Working memory

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master or flipped-classroom classes with ICT support	28.5	1.14	2, 7, 6, 4, 5, 13, 16, 15, 18, 17, 12
Seminars (12h) and Workshops (4h)	16	0.64	1, 7, 6, 4, 5, 16, 15, 18, 17, 22
Type: Supervised			
Individualized and/or small group follow-up tutoring (virtual and/or face-to-face)	8.5	0.34	14, 22
Type: Autonomous			
Comprehensive reading of materials (books, scientific papers, outreach articles, webs)	20	0.8	1, 7, 6, 4, 5, 3, 20, 21, 16, 15, 18, 17, 22, 11, 9, 10, 8
Documentation	11	0.44	1, 22
Exercises and activities	20	0.8	2, 7, 6, 4, 5, 13, 16, 15, 18, 17, 22, 12
Study of basic concepts of the subject (conceptual maps, synthesis)	42	1.68	2, 7, 6, 4, 5, 13, 20, 21, 12, 11, 9, 10, 8

DIRECTED ACTIVITY (30%)

a) Master Classes (TE, 19 face-to-face sessions; 1,5h) based on:

- Master or flipped-classroom classes with ICT support and proposal of questions to discuss and debate through the active participation of students.
- Practical exercises and problem-solving tasks, both individually and in groups.
- Viewing and discussing short videos.

b) Seminars (PAUL, 6 sessions; 2h). Face-to-face seminars to work, usually in groups, based on:

- Reading of texts and articles (in Spanish, Catalan, or English) to gain a better understanding of the subject content.
- Completion and correction of practical exercises and self-assessment.
- Problem-solving tasks, reflections and debates on various topics related to the subject.

c) Workshops (PLAB, 2 sessions; 2h). Workshops to facilitate practical and empirical learning of the subject content, based on:

- Evaluation of sleep records and comprehensive reading of somnigrams.
- Practical exercises on the biological basis of learning and memory.

SUPERVISED ACTIVITY (5%)

Tutorials. Follow-up, either face-to-face or virtual, with the teacher individually and/or in groups. Among others, aspects such as:

- Correction and supervision of the answers to key questionsof the syllabus.
- Reflections on readings.
- Resolution of doubts.
- Individualized strategies for the study of the subject.

AUTONOMOUS ACTIVITY (60%)

- Search for information.
- Comprehensive reading of basic materials of the subject (recommended books, scientific journal articles, etc.).
- Consultation of complementary material (outreach articles, videos, websites, etc.).
- Study and memorization of basic concepts of the subject (creation of scripts, concept maps, synthesis, etc.).
- Carrying out exercises and activities of continuous evaluation and self-evaluation.
- Regular participation in communication forums and other spaces on the virtual campus, coordinated by the lecturing staff.

ASSESSMENT ACTIVITY (5%)

- Individual written tests (multiple-choice questions, open questions and practical exercises) (EV1 and EV2).
- Moodle self-assessment activities (EV3).

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
EV1. Written individual test (multiple-option, open question and short questions)	45%	2	0.08	2, 1, 7, 4, 3, 13, 19, 16, 15, 12, 10, 8
EV2. Written individual test (multiple-option, development and short questions)	45%	2	0.08	2, 1, 6, 4, 5, 13, 16, 18, 17, 12, 11, 9, 10
EV3 (optional). Moodle self-assessment activities	10%	0	0	2, 1, 7, 6, 4, 5, 3, 13, 14, 20, 21, 19, 16, 15, 18, 17, 22, 12, 11, 9, 10, 8

The CONTINUOUS EVALUATION of the course allows the students to know their academic progress and will be carried out through different tests in which the students must demonstrate that they have achieved the competencies, have achieved the objectives and passed the corresponding learning outcomes. For each of the following evaluation activities, its weight in the final grade, the duration of the test and when it will take place are indicated (see at the end the link to the evaluation calendar):

1. EV1. Learning evidence 1 (compulsory): individual face-to-face, written test of development and/or short questions/test on Units 1, 2 and 3 (45%; 1.5 hours; 1st evaluation period).

2. EV2. Evidence of learning 2 (compulsory): individual face-to-face, written test of development and/or short questions/test on Units 4, 5 and 6 (45%; 1.5 hours; 2nd evaluation period).

3. EV3. Evidence of learning 3 (optional): self-assessment activities on the Moodle platform. Individual test (10%).

The course offers the possibility of SINGLE ASSESSMENT (see link at the end for information on regulations, application, deadline), which implies the renounce of continuous assessment and involves the completion on a single date of EV1, EV2 (mandatory) and EV3 (optional).

The date of completion and delivery will correspond to the date of the second evaluation period. The description, weight and duration of the evidences are the same as those specifiedin sections 1 - 3 above. The same recovery process will be applied as for the continuous evaluation (see the following section e).

The EVALUATION CRITERIA are the following:

a) Completion of all mandatory learning evidences, EV1 and EV2.

b) Students who have submitted learning evidences with a weight equal to or higher than 40% will be considered "evaluable".

c) The final grade of the course will be obtained from the weighted sum of the results obtained in all the evaluation activities carried out.

d) The course will be passed with a weighted sum (of all the evidences carried out) that is equal or superior to 5 points out of 10, provided that a minimum of 3.5 points (on a scale of 0 - 10) has been obtained in each of the 2 compulsory evidences (EV1 and EV2). In case of not reaching the established requirements, the maximum grade to be recorded in the transcript may be 4.5 points.

e) Students who have taken the compulsory evidences EV1 and EV2 and have obtained an overall evaluation grade (EV1 + EV2 + EV3) between 3.5 and 4.9 points out of 10 will be eligible to take a reassessment test, held during the re-assessment period established by the Faculty. The reassessment test will consist of the repetition of EV1 and / or EV2. The criterion of passed subject will be the same as described in section d, once substituted the grade of the evidence/s recovered. Thus, it is necessary to obtain a minimum score of 3.5 in the retest of a specific evidence (EV1 and / or EV2) to pass the subject (with an overall grade equal to or higher than 5). If a student opt for re-assessment, the maximum possible numerical grade for the subject will be 7 out of 10.

Link to the Evaluation Guidelines, Evaluation Test Translation Criteria, Evaluation Calendar andinformationon the Single Assessment of the School of Psychology:

https://www.uab.cat/web/estudiar/graus/graus/avaluacions-1345722525858.html

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PROGRAMMING OF THE RETURN OF EVIDENCE and ACTIVITIES

Type of Return	EV & TYPE	WEEK

Tutorial	Ev1 (Week 7) individual written test	Ev1 (Week 10)
Tutorial	Ev2 (Week 19) individual written test	Ev2 (Week 20)
In the classroom	Ev3a Moodle activity (Topics 1, 2 and 3) Ev3b Moodle activity (Topics 4, 5 and 6)	Ev3a (PAUL-3) Ev3b (PAUL-6)

Bibliography

In bold the fundamental bibliography (choose one of the reference manuals), the rest is complementary bibliography.

- Bear, Mark F.; Connors Barry W.; Paradiso Michael A. (2020). Neuroscience: Exploring the brain (Enhanced Edition). Jones & Barlett Learning.
- Carlson Neil R.; Birkett, Melissa A. (2023). Physiology of Behavior (13th edition). Pearson.
- Carlson Neil R.; Birkett, Melissa A. (2017). Physiology of Behavior (12th edition). Pearson (online): https://ebookcentral.proquest.com/lib/uab/reader.action?docID=5186462)
- Carlson Neil R.; Birkett, Melissa A. (2018). Fisiología de la conducta (12ª edición). Madrid: Pearson (online: https://www-ingebook-com.eu1.proxy.openathens.net/ib/NPcd/IB_Escritorio_Visualizar?cod_primaria=100)
- Collado Guirao, Paloma; Guillamón Fernández, Antonio; Pinos Sánchez, Helena; Rodríguez-Zafra, Mónica*;* Claro Izaguirre, Francisco; Carrillo, Beatriz (2017) Psicología Fisiológica. Madrid: UNED.
- Garret, Bob; Hough, Gerald. (2022). Brain and Behavior (6th Edition). Sage Publications Inc.
- Morgado, Ignacio (2014). Aprender, recordar y olvidar: claves cerebrales de la memoria y la educación. Barcelona: Ariel.
- Morgado, Ignacio (2019). Deseo y placer. Barcelona: Ariel.
- Morgado, Ignacio (2023). La mente humana. Barcelona: Ariel.

Software

None specific

Use of Artificial Intelligence (AI) technologies

- The teaching team of the subject considers that the student can make use of AI exclusively in support tasks, such as bibliographic or information search, text correction or translations.
- The team also warns students of the danger of the lack of veracity that the information provided by AI can entail, and recommends the study of the content of the subject based on the recommended texts and manuals.
- On the other hand, for the performance of the EV3 assessment activity (self-assessment activities), the use of AI is strictly prohibited. Its use is considered a serious lack of academic honesty and, if detected, the EV3 grade will be 0 points.

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	11	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	12	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	21	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	22	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	31	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	32	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	41	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	42	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	51	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	52	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	111	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	112	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	113	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	114	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
(PLAB) Practical laboratories	214	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	311	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	312	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	313	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	314	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	411	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	412	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	413	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	414	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	511	Catalan	second semester	morning-mixed

(PLAB) Practical laboratories	512	Catalan	second semester	morning-mixed
(PLAB) Practical laboratories	513	Catalan	second semester	morning-mixed
(TE) Theory	1	Catalan	second semester	morning-mixed
(TE) Theory	2	Catalan	second semester	morning-mixed
(TE) Theory	3	Catalan	second semester	morning-mixed
(TE) Theory	4	Catalan	second semester	morning-mixed
(TE) Theory	5	Catalan	second semester	morning-mixed