

## Physiological Psychology I

Code: 102547  
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 Degree in Psychology (Foundations of Psychobiology I, II) is assumed. It is advisable to have knowledge of English.

### Objectives and Contextualisation

This subject, which is compulsory in the UAB's Degree in Psychology, is taught in the first semester of the second academic year, after having completed the subjects Foundations of Psychobiology I and II. The basic knowledge of genetics, neurophysiology, neurochemistry and functional neuroanatomy, studied in the previous subjects, will be considered completed.

Physiological Psychology has a multidisciplinary nature since it requires the knowledge of many scientific fields, mainly psychology, biology and biochemistry. The general objective of the subject is to gain the knowledge of the biological bases of the following processes: consciousness, perception of sensory stimuli and planning and execution of motor behaviour.

By the end of the course, the students will be able to:

1. Describe the main neuroanatomical and neurophysiological characteristics of perceptual (somesthesia, vision, hearing, taste, smell) and sensorimotor processes.

2. Describe the biological basis of consciousness.
3. Explain how the brain analyzes and processes information from the environment through mental representations, plans behavior, and develops a response.
4. 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.
- 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. Describe the alterations in sensory-perceptive processes in relation to the changes in the underlying neurophysiological and neurohormonal mechanisms.
3. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms involved in language and consciousness.
4. Describe the neuronal circuits, the neurophysiological, neurochemical and hormonal mechanisms involved in sensory-perceptual processes (somesthesia, vision, hearing, balance, taste and smell) and sensory-motors.
5. Evaluate the contributions of a psychobiological approach to advancing the understanding of the neurobiological basis of language and consciousness.
6. Evaluate the contributions of a psychobiological approach to advancing understanding of sensory-perceptual processes (somesthesia, vision, hearing, balance, taste and smell) and sensory-motors.
7. Identify the main authors and their scientific contributions to the development of knowledge in the area of neurosciences in general and physiological psychology in particular from a historical perspective.
8. 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.
9. Recognised the main methods and techniques for research in physiological psychology.
10. Relate neuroanatomical, neurophysiological and neurohormonal alterations with disorders of sensory-perceptual processes (somesthesia, vision, hearing, balance, taste and smell) and sensory-motors.
11. Relate neuroanatomical, neurophysiological, neurohormonal and genetic alterations with language disorders.
12. Relate somesthesia, vision, audition, balance, taste and smell with their neuronal bases and the neurophysiological, hormonal and genetic underlying mechanisms.
13. 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.
14. 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.
15. Use different ICTs for different purposes.

## Content

### Unit 1. Sensation and Perception

1. Mind, consciousness, and perception
2. General principles of sensory processing

### Unit 2. Body Senses

1. Somatosenses
2. Receptors, somesthetic pathways and transduction
3. Analysis of somatic information in the cerebral cortex
4. Pain and analgesia

### Unit 3. Vision

1. The stimulus: light
2. The eye, the retina, and the optical pathways
3. Transduction and encoding of the retinal visual information
4. Analysis of visual information: striate cortex
5. Analysis of the visual information: associative visual cortices

### Unit 4. Audition

1. The stimulus: sound
2. Anatomy of the ear
3. Transduction and encoding of auditory information in the cochlea
4. Analysis of auditory information in the central nervous system

### Unit 5. Chemical senses: Taste and Smell

1. Gustation
2. Olfaction

### Unit 6. Control of Movement

1. Organization of the senso-motor function
2. Skeletal muscle
3. Control of movement by the spinal cord
4. Control of movement by the brain

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
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Type: Directed			
Master classes with ICT support and questions for debate	28.5	1.14	3, 4, 2, 9, 12, 10, 11, 5, 6
Seminars (12h) and Workshops (4h)	16	0.64	1, 2, 8, 12, 15
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Type: Supervised			
Tutorials On line and one to one	8.5	0.34	15
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Type: Autonomous			
Comprehesive reading of materials	20	0.8	1, 2, 8, 12, 15
Documentation	11	0.44	1, 8, 15
Exercises and activities	20	0.8	3, 4, 2, 14, 9, 12, 10, 11, 5, 6

Study of basic concepts of the subject	42	1.68	1, 3, 4, 2, 8, 9, 12, 10, 11, 5, 6
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### DIRECTED ACTIVITY (30%)

a) Master Classes (TE) (whole group). 19 face-to-face sessions (1.5h) of work based on:

- Master or flipped classroom with the support of information technologies (ICTs) 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 discussion of short videos

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

- Reading of texts and articles to facilitate the understanding of the teaching content.
- Carrying out and correcting practical and self-assessment exercises.
- Problem-solving activities and debates on different issues.

C) Workshops (PLAB). 2 sessions (2h)

- Workshop on anatomy and physiology of the visual system through models of the sensory organs and practical exercises.
- Workshop on chemical senses (taste and smell) through models of the sensory organs and practical exercises.

SUPERVISED ACTIVITY (5%). Follow-up, in person or virtually, with the lecturing staff individually and/or in a group. The key aspects of this supervised activity include:

- Correcting and providing guidance on answering key questions from the syllabus.
- Facilitating reflections on the assigned readings.
- Addressing any doubts or questions that may arise.
- Offering personalized study strategies to enhance individual learning.

AUTONOMOUS ACTIVITY (60%).

- Documentation.
- Comprehensive reading of materials (books, scientific papers, outreach articles, webs).
- Study of basic concepts of the subject (conceptual maps, synthesis).
- Exercises and activities for continuous evaluation and self-evaluation.
- Regular participation in communication forums, and other spaces of the virtual classroom, coordinated by the lecturing staff.

ASSESSMENT ACTIVITY (5%)

- Individual written tests (multiple-choice, open questions or 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

### Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
EV1. Written individual test of open questions and/or short questions.	45	2	0.08	4, 2, 7, 9, 12, 10, 5, 6
EV2. Written individual test of open questions and/or short questions.	45	2	0.08	3, 4, 2, 7, 9, 12, 10, 11, 6
EV3. Moodle self-assessment activities	10	0	0	1, 3, 4, 2, 7, 8, 13, 14, 9, 12, 10, 11, 15, 5, 6

The evaluation of the subject is based on a continuous assessment through different tests and activities in which the students will have to demonstrate that they have achieved the corresponding competences and learning outcomes.

For each of the following evaluation activities, its weight in the final grade, the duration of the test and when it is carried out are indicated:

- EV1. Learning Evidence 1 (compulsory): Written individual test (multiple-choice, open questions and/or short questions). Topics covered in master, seminar and workshop classes on Units 1, 2 and 3 (40% of final grade, 1.5h, first evaluation period).
- EV2. Learning Evidence 2 (compulsory): Written individual test (multiple-choice, open questions and/or short questions). Topics covered in master, seminar and workshop classes on Units 4, 5 and 6 (40% of final grade, 1.5h, second evaluation period).
- EV3. Learning Evidence 3 (optional): Self-assessment activities on the Moodle platform. Individual test (10%).

The subject offers the possibility of SINGLE EVALUATION (see link at the end for information on regulations, application, deadline), which means waiving continuous assessment and implies the completion of EV1 and EV2 (mandatory) and EV3 (optional) evidence on a single date. The date of completion and delivery will correspond to the date of the second assessment period. The description, weight and face-to-face duration of the evidence are the same as those explained in sections 1 - 3 above. The same recovery process will be applied as for continuous assessment (see the following section e). THE SINGLE EVALUATION IS REQUESTED ONLINE (E-FORM) IN THE SPECIFIC PERIOD (more information on the Faculty website).

The subject does not offer the possibility of taking a synthesis test.

Translations of assessment tests may be requested if the requirements established in Article 263 are met and the

The evaluation criteria will be the following:

- a) Provision of compulsory learning evidences, EV1 and EV2.
- b) Students providing learning evidences with a weight equal to or greater than 40% will be considered evaluable.
- c) The final grade will be calculated based on the weighted average of all the assessment activities carried out.

d) To pass the subject, a weighted average (of all provided evidences) equal to or greater than 5 points out of 10 is required, with a minimum of 3.5 points in each of the 2 compulsory evidences (EV1 and EV2). Otherwise, the maximum grade in the course will be 4.5.

e) Students who have completed the compulsory evidences (EV1 and EV2) but obtained a continuous assessment grade (EV1 + EV2 + EV3) below 5 points and equal to or greater than 3.5 points out of 10 will be eligible to take are-assessment test. The test will involve repeating one or both of the compulsory learning evidences, typically the one with the lower grade. The passing criterion for the re-assessment will be the same as in section d, replacing the grade of the recovered evidence. If the subject is passed in the re-assessment, the maximum possible numerical mark will be 7 out of 10.

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Link to the [Evaluation Guidelines of the Faculty of Psychology](#)

#### SCHEDULING FOR THE RETURN OF EVIDENCE and ACTIVITIES

<tdvalign="top" width="276">EV and TYPE

Return	EV and TYPE	
Tutoring	Ev1 (week 9) individual written test	week 11
Tutoring	Ev2 (Setmana 19) individual written test	week 20
In the classroom	Ev3a Moodle activities (Topics 1, 2 and 3)	Ev3a (PAUL4) week 8
	Ev3b Moodle activities (Topics 4, 5 and 6)	Ev3b (PAUL6) G1 week 15, G2, 3, 4 and 5 week 14

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#### Bibliography

In bold the basic bibliography (choose one of the reference manuals). The rest of the bibliography is complementary.

- 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 version: <https://ebookcentral.proquest.com/lib/uab/reader.action?docID=5186462>).

- Carlson Neil R.; Birkett, Melissa A. (2018). Physiology of behavior (12th edition). Madrid: Pearson.
- Garret, Bob; Hough, Gerald (2022). Brain and Behavior (6th Edition). Sage Publications Inc.
- Morgado Bernal, Ignacio (2019) Los sentidos: cómo percibimos el mundo (The senses: how we perceive the world). Barcelona: Ariel.
- Morgado, Ignacio (2023) La mente humana. Barcelona: Ariel

## Software

### Use of Artificial Intelligence (AI) technologies

The teaching team of the subject considers that the student can use AI exclusively in support tasks, such as bibliographic or information searches, text correction or translations.

The team also warns students of the danger of the lack of veracity that the information provided by AI may entail and recommends studying the content of the subject based on the recommended texts and manuals.

However, for the completion 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	first semester	morning-mixed
(PAUL) Classroom practices	12	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	21	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	22	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	31	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	32	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	41	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	42	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	51	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	52	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	111	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	112	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	113	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	114	Catalan	first semester	morning-mixed

(PLAB) Practical laboratories	211	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	212	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	213	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	214	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	311	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	312	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	313	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	314	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	411	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	412	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	413	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	414	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	511	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	512	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	513	Catalan	first semester	morning-mixed
(TE) Theory	1	Catalan	first semester	morning-mixed
(TE) Theory	2	Catalan	first semester	morning-mixed
(TE) Theory	3	Catalan	first semester	morning-mixed
(TE) Theory	4	Catalan	first semester	morning-mixed
(TE) Theory	5	Catalan	first semester	morning-mixed