

Degree programme	Type	Course
Psychology	FB	1

Contact lecturer

Name : David Costa Miserachs

Email : david.costa@uab.cat

Teaching staff

David Quevedo Barber

Maria Pons Vizcarra

Margalida Coll Andreu

David Costa Miserachs

Marc Pallarés i Añó

Meritxell Torras Garcia

Jordi Silvestre Soto

Soleil Garcia Brito

Silvia Fuentes García

Group languages

You can consult this information at the [end](#) of the document.

Prerequisites

There are no prerequisites.

Objectives

Objectives and Contextualisation

This subject is considered a basic and compulsory component of the Psychology Degree at the UAB.

The course aims to provide students with the foundational knowledge of neuronal physiology and neurochemistry necessary to study the relationship between behavioural processes and their biological substrates in subsequent Psychobiology subjects.

The goal is for students to be able to understand and correctly use the relevant terminology, and to demonstrate knowledge of:

1. Neurons and glial cells.
2. Nerve impulses and their conduction.

3. Synaptic transmission and neurotransmitters.
4. The plasticity of the nervous system.

Learning outcomes

1. Explain what psychobiology is and how it is related to the rest of psychology.
2. Discover the main components of nerve tissue and explain the basic structural, ultrastructural and molecular characteristics of nerve cells and different types of synapses.
3. Explain the characteristics of the nerve impulse and its conduction.
4. Explain the main characteristics of synaptic transmission and the best-known systems of substance transmission.
5. Use different ICTs for different purposes.
6. Work in a team.
7. 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.

Contents

UNIT 1. The Cells of the Nervous System.

UNIT 2. Excitability and Neuronal Conductivity.

UNIT 3. Synaptic Transmission.

UNIT 4. Neural Plasticity.

UNIT 5. Transmitter substances.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Lectures (whole group)	34.5	1.38	1, 2, 3, 4, 5
Self-directed learning to assimilate and consolidate the course material.	75.5	3.02	1, 2, 3, 4, 5, 6, 7
Tutoring sessions	11	0.44	
Workshops (1/4 group)	4	0.16	1, 2, 3
Practical sessions (1/2 group)	14	0.56	1, 2, 3, 4, 6, 7

The teaching methodology is based on different training activities. Depending on the case, master classes (1/1), practical sessions (1/2), workshops (1/4), supervised and autonomous activities will be performed.

Type: directed

- Master classes (whole group): weekly sessions where the contents of the subject will be explained
- Classes in small groups (1/2 and 1/4): sessions with a reduced number of students to work on the contents of the subject through different activities such as problem-solving or practical exercises.

Type: supervised

- Tutoring sessions (online and classroom attendance) to solve doubts.

Type: autonomous

- Search for documentation and preparation of the basic and complementary material of the subject (study materials available through the virtual campus, textbooks of the subject, monographs and articles).
- Self-assessment exercises.
- Preparation of a part of the syllabus corresponding to neurotransmitters.
- Study of basic concepts of the subject (creation of scripts, concept maps, synthesis, etc.).

Use of Artificial Intelligence

In this subject, the use of Artificial Intelligence (AI) technologies is allowed as an integral part of the development of the work, provided that the final result reflects a significant contribution of the student in the analysis and personal reflection. The student must clearly identify which parts have been generated with this technology, specify the tools used and include a critical reflection on how these have influenced the process and the final result of the activity. The lack of transparency in the use of AI will be considered a lack of academic honesty and may lead to a penalty in the grade of the activity, or greater sanctions in serious cases.

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	Weight	Hours	ECTS	Learning outcomes
Learning evidence 2	10%	8	0.32	1, 2, 3, 4, 5, 6, 7
Learning evidence 3	50%	1.5	0.06	1, 2, 3, 4, 7
Learning evidence 1	40%	1.5	0.06	1, 2, 3, 4, 7

Continuous Assessment

The assessment of this subject is continuous and cumulative and will be carried out through 3 learning assessment tasks. The final grade will be obtained from the weighted average of the assessment activities carried out:

- Learning Assessment Task 1 (Ev1)
- Open-ended questions from topics 1, 2, and 3.
- Conducted in-person during the first assessment period on the dates established by the faculty.
- Feedback in the classroom on week 10.
- Learning Assessment Task 2 (Ev2)
- Submission of activities through the virtual campus or on paper.
- Depending on the activity, these will be group or individual tasks.
- The schedule will be set for each group.
- Feedback through Moodle or in office hours between 2 and 3 weeks after the completion of the activity.
- Learning Assessment Task 3 (Ev3)
- Multiple-choice and open-ended questions covering all subject content (Topics 1, 2, 3, 4, and 5).
- Conducted face-to-face during the second assessment period on the dates established by the faculty.
- Feedback in office hours on week 20.
- A student is considered to have passed the subject through continuous assessment when both of the following conditions are met: a) having obtained a minimum grade of 5 points (out of 10) in the

continuous assessment, b) having obtained a minimum score of 5 points (out of 10) in tasks 1 and 3. In case of not meeting these requirements, the grade on the academic record will be the lower value between 4.5 points and the weighted average of the continuous assessment grades.

Single Assessment

Requesting the single assessment implies waiving the continuous assessment.

The single assessment will take place on the same day and venue as the continuous assessment exam for the second assessment period of the subject.

A single exam consisting of open-ended and multiple-choice questions will be conducted to assess all the contents of the subject. The final grade for the subject will correspond to the score obtained in this exam. The single assessment must be requested online (E-form, more information on the faculty website) within the specific period.

Reassessment):

- In order to be eligible for the reassessment exam, students must:
- Not have met the criteria established to pass the subject and have a grade greater than or equal to 3.5 points. That is, the final grade must be lower than 5 and greater than or equal to 3.5 points.
- Have been previously assessed in a set of activities whose weight is equivalent to a minimum of 2/3 of the total grade for the subject.
- Reassessment exam:
- In case of having followed the continuous assessment:
- Ev2 cannot be retaken.
- In case of not having passed either Ev1 or Ev3 during the continuous assessment, and given that the knowledge in this subject is cumulative, students will only need to take the reassessment for Ev3, and the final grade for the subject will correspond to the grade obtained in this exam up to a maximum of 5 out of 10.
- In case of not having passed only Ev1 or Ev3 during the continuous assessment, students will only need to take the reassessment for the failed assessment task. The final grade after the resit will be the weighted average of the 3 assessment tasks, taking into account that the reassessment grade replaces the grade of the corresponding task up to a maximum of 5 points out of 10.
- In case of having followed the single assessment:
- Students who opted for the single assessment and failed the subject will only have to take the reassessment corresponding to Ev3. The final grade for the subject will be the one obtained in this exam up to a maximum of 5 out of 10.
- The Ev1 reassessment will consist of open-ended questions from topics 1, 2, and 3. The Ev3 reassessment will consist of open-ended questions from topics 1, 2, 3, 4, and 5.
- Conducted in-person during the resit period on the dates established by the faculty.

Non-assessable (No evaluable):

- Students who have submitted learning assessment tasks with a weight equal to or greater than 4 points (40%) cannot be recorded in the official transcripts as "non-assessable".
- It is not expected that students enrolled for the second time or more will be assessed through a single, non-retakable synthesis exam.
- Below you will find the link to the faculty's assessment guidelines: [Assessment Guidelines for Degrees at the Faculty of Psychology](#).
- The submission of the translation of face-to-face assessment exams may be requested if the requirements established in article 263 are met and the request is made online during week 4 (E-form, more information on the faculty website). In any case, the teaching team will decide on the relevance of providing the translations.

Bibliography

Mark F. Bear, Barry W. Connors, Michael A. Paradiso (2016) Neurociencia: Explorando el cerebro, 4a edición. Barcelona: Wolters Kluwer.

Neil R. Carlson, Melissa A. Birkett (2018). Fisiología de la conducta, 12^a edición. Madrid: Pearson Educación. (Accés online a través biblioteca UAB)

Duane E. Haines, Gregiry A. Mihailoff (2019). Principios de neurociencia: aplicaciones básicas y clínicas. Elsevier (Accés online a través de la biblioteca UAB).

Bryan Kolb, Ian Whishaw (2002) *Cerebro y Conducta. Una Introducción*. Madrid: McGraw-Hill/Interamericana.

John P.J. Pinel (2006) *Biopsicología*. Madrid: Pearson Educación.

Dale Purves, George J. Augustine, David Fitzpatrick, William C. Hall, Anthony-Samuel LaMantia, James O. McNamara, S. Mark Williams, 5^a edición (2016). Neurociencia. Madrid: Medica Panamericana. (Accés online a través biblioteca UAB)

Diego Redolar Ripoll (2019) Psicobiología. Madrid: Panamericana.

Mark R. Rosenzweig, S. Marc Breedlove, Neil V. Watson, N.V. (2005) Psicobiología. Una introducción a la Neurociencia Conductual, Cognitiva y Clínica. Barcelona: Ariel

Stephen M. Stahl (2023) Psicofarmacología esencial de Stahl: bases neurocientíficas y aplicaciones prácticas. 5^a ed. Madrid: Aula médica, Formación en Salud.

Software

Neurosim (available for installation under the UAB license). Students will need to have it installed on their laptops for the practical session in Week 8.

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(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	morning-mixed

semester				
(TE) Theory	5	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	11	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	12	Unknown	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	Unknown	first semester	morning-mixed
(PAUL) Classroom practices	52	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	111	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	112	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	113	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	114	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	211	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	212	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	213	Unknown	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	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	411	Unknown	first semester	morning-mixed
(PLAB) Practical	412	Catalan	first	morning-mixed

laboratories			semester	
(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	Unknown	first semester	morning-mixed
(PLAB) Practical laboratories	513	Unknown	first semester	morning-mixed