Information about the subject

Degree: Bachelor of Science Degree in Psychology

Faculty: Faculty of Psychology

Code: 291103 **Name:** Fundamentals of Neuroscience

Credits: 6,00 **ECTS Year:** 1 **Semester:** 2

Module: BIOLOGICAL BASIS OF BEHAVIOR

Subject Matter: PHYSIOLOGY **Type:** Basic Formation

Field of knowledge: Health Sciences

Department: Basic, Social, and Neuropsychology

Type of learning: Classroom-based learning / Online

Languages in which it is taught: Spanish

Lecturer/-s:

291A	Ana Perez Villalba **(Responsible Lecturer)**	anaperez@ucv.es
291B	Ana Perez Villalba **(Responsible Lecturer)**	anaperez@ucv.es
291D	Jose Maria Tormos Muñoz **(Profesor responsable)**	jm.tormos@ucv.es

Module organization

BIOLOGICAL BASIS OF BEHAVIOR

Subject Matter	ECTS	Subject	ECTS	Year/semester
PHYSIOLOGY	12,00	Fundamentals of Neuroscience	6,00	1/2
		Psychophysiology	6,00	2/1
BIOLOGY	6,00	Biology of Human Behaviour	6,00	1/1

Recommended knowledge

It is recommended to have a medium level of English B2 in order to have access to articles in English

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1 Knowing the interactions between nervous system, cell communication and their relationship with human behavior.

R2 Using the specialized vocabulary of the field and expressing oneself adequately.

R3 Understanding the neuronal communication processes that support the processing of information of the Nervous System.

R4 Deducing, interpreting and critically assessing experimental results from scientific reading or informative science.

R5 Using the documental resources available for the training in scientific knowledge as well as maintaining a scientific attitude as regards the presentation of questions and the search for answers.

R6 Knowing and relating macroanatomy of the NS with its functionality and some physiological characteristics.

R7 Knowing and relating microanatomy and molecular biology of the NS with their functionality and some physiological characteristics.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

SPECIFIC		Weighting			
		1	2	3	4
CE4	Analyzing and measuring variables (personality, intelligence and other aptitudes) and cognitive, emotional, psychobiological and behavioral processes .				x

TRANSVERSAL		Weighting			
		1	2	3	4
CT1	Capacity to analyze and synthesize.				x
CT4	Command of a foreign language.		x		
CT7	Problem solving.				x
CT35	Being able to develop audio-visual presentations.			x	
CT36	Being able to collect information using different kinds of sources.				x

Assessment system for the acquisition of competencies and grading system

In-class teaching

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R6, R7	60,00%	Oral and/or written tests employed in initial, training and/or summative student assessment.
R2, R5, R6, R7	30,00%	Presentation of practical activities.
R2, R5	10,00%	Attendance and active participation: lessons, group assignments and tutoring sessions. It will be monitored and registered by the teacher.

Observations

To pass the subject, the student must separately pass the different evaluation systems (active participation, practices, and theoretical and practical exam).
The final evaluation test will consist of a theoretical exam and a practical exam.
The tutor will grant MH to students who show evidence of levels of excellence in all competencies and learning outcomes.

Online teaching

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R6, R7	70,00%	Final evaluation consisting of essay questions and hypothetical scenarios.
	5,00%	Submitted tasks
R1, R3, R4, R6, R7	5,00%	Periodical assessment through questionnaires
R1, R2, R3, R4, R5, R6, R7	20,00%	Attendance and participation in synchronic communication activities.

Observations

To pass the subject, the student must separately pass the different evaluation systems (active participation, practices, and theoretical and practical exam).
The final evaluation test will consist of a theoretical exam and a practical exam.
The tutor will grant MH to students who show evidence of levels of excellence in all competencies and learning outcomes.

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded.
Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1	Teacher presentation of contents, competency analysis, explanation and demonstration of capacities, abilities and knowledge in the classroom (presential modality).
M2	Teacher-supervised groupwork sessions: case studies, diagnostic tests, problems, fieldwork, IT room, visits, data searches, libraries, web, Internet, etc. Building knowledge significantly through interaction and student activities (presential modality).
M3	Supervised monographic sessions with shared participation.
M4	Application of interdisciplinary knowledge.
M5	Activities developed in spaces with specialized equipment.
M6	Personalized attention in small groups. Training and/or orientation period by a teacher aimed at revising and discussing the materials and topics presented in the lessons, seminars, lectures, assignments, etc.
M7	Set of oral and/or written tests employed in initial, training or summative assessment of the student.

M8 Group preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be presented or handed in during theory lessons, practical lessons and/or tutoring sessions in small groups. Tasks done on the platform or other virtual spaces.

M9 Students' independent study: individual preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be presented or handed in during theory lessons, practical lessons and /or small-group tutoring sessions. Tasks on the platform or other virtual spaces.

M11 Teacher presentation of contents, competencies analysis, explanation and demonstration of capacities, abilities and knowledge on the virtual classroom.

M12 Group work sessions via chat moderated by the teacher. Case studies –both real and fictional– aimed at building knowledge through interaction and students' activities. Critical analysis of values and social commitment.

M13 Monographic sessions throughout the course, focused on current aspects and applications of the subject.

M14 Set of oral and/or written tests employed in initial, training or summative assessment of the student.

M15 Student's individual study: individual preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be discussed or turned in in electronic format.

M16 Individualized attention for the monitoring and orientation in the learning process, performed by a tutor in order to revise and discuss the materials and topics, seminars, readings and assignments, etc.

M17 Group preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be discussed or handed in.

M18 Participation and contributions to discussion forums related to the subject and moderated by the module's teacher.

M19 Problem resolution, comments, reports to be handed in according to the deadlines throughout the course.

IN-CLASS LEARNING

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge. M1, M2	R1, R2, R3, R4, R5	25,00	1,00
PRACTICAL CLASSES Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity. M2, M5	R1, R2, R6, R7	12,50	0,50
SEMINAR Supervised monographic sessions with shared participation. M3	R1, R2, R3, R5	5,00	0,20
GROUP WORK EXHIBITION Application of multidisciplinary knowledge. M3, M7	R1, R2, R3, R4, R5	5,00	0,20
LABORATORY Activities carried out in spaces with specialized equipment. M1, M2, M5, M6	R1, R2, R3, R6, R7	5,00	0,20
OFFICE ASSISTANCE Personalized and small group attention. Period of instruction and/or orientation carried out by a tutor to review and discuss materials and topics presented in classes, seminars, papers, etc. M6	R1, R2, R3, R4, R5, R6, R7	5,00	0,20
ASSESSMENT Set of oral and/or written tests used in initial, formative or additive assessment of the student. M7	R1, R2, R3, R6, R7	2,50	0,10
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform M8	R3, R4, R5	40,00	1,60
INDEPENDENT WORK Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform. M9	R1, R2, R3, R6, R7	50,00	2,00
TOTAL		**90,00**	**3,60**

ON-LINE LEARNING

SYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Virtual session (distance learning) M11, M14	R1, R2, R3, R4, R5, R6, R7	25,00	1,00
Virtual practical session (distance learning) M13, M14, M15	R2, R3, R4, R5	12,50	0,50
In-person or virtual assessment (distance learning) M17	R1, R2, R3, R4, R5, R6, R7	2,50	0,10
Individual tutoring sessions (distance learning) M16	R1, R2, R3, R4, R6, R7	5,00	0,20
Discussion forums (distance learning) M18	R1, R2, R3, R4, R6, R7	5,00	0,20
Continuous assessment activities (distance learning) M14	R1, R2, R3, R4, R5, R6, R7	10,00	0,40
TOTAL		**60,00**	**2,40**

ASYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Individual work activities (distance learning) M15, M17, M19	R3, R4, R5	50,00	2,00
Teamwork (distance learning) M13, M17	R1, R2, R3, R4, R5, R6, R7	40,00	1,60
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
UNIT 1: GENERAL ORGANIZATION OF THE NERVOUS SYSTEM	Unit 1: General organization of the Nervous System Unit 2: The neuron Unit 3: Neuroglia Unit 4: Basic Anatomy of the Central Nervous System Unit 5: The blood-brain barrier
UNIT 2: ELECTROPHYSIOLOGY AND NEURONAL COMMUNICATION	Unit 6: The electrical activity of neurons Unit 7: Neurotransmitters
UNIT 3: SENSORY PERCEPTION	Unit 8: Visual perception

Temporary organization of learning:

Block of content	Number of sessions	Hours
UNIT 1: GENERAL ORGANIZATION OF THE NERVOUS SYSTEM	20,00	40,00
UNIT 2: ELECTROPHYSIOLOGY AND NEURONAL COMMUNICATION	8,00	16,00
UNIT 3: SENSORY PERCEPTION	2,00	4,00

References

·Fundaments of Neural Sciences. Kandel E.R; Schwartz J.H y Jessell, T.M. (2001 and next). Madrid. McGraw-Hill Internacional

·The human brain coloring book. Diamond, M.C.. Diamond Books.