



## Information about the subject

**Degree:** Bachelor of Science Degree in Speech and Language Therapy

**Faculty:** Faculty of Psychology

**Code:** 1171103 **Name:** Fundamentals of Neuroscience

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

**Module:** Basic Training

**Subject Matter:** Physiology **Type:** Basic Formation

**Field of knowledge:** Health sciencies

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**

1171A Alma Maria Bueno Cayo (**Responsible Lecturer**)

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## Module organization

### Basic Training

Subject Matter	ECTS	Subject	ECTS	Year/semester
Physiology	12,00	Functional anatomy of the organs of speech and hearing II	6,00	1/2
		Fundamentals of Neuroscience	6,00	1/2
Anatomy	6,00	Functional anatomy of the organs of speech and hearing I	6,00	1/1
Psychology	36,00	Basic Psychological Processes	6,00	1/1
		Developmental psychology	6,00	1/1
		Psycholinguistics	6,00	2/1
		Psychology of Education	6,00	2/2
		Psychology of language development	6,00	1/2
		Research Methodology	6,00	2/1
Clinical linguistics	6,00	Linguistics applied to speech and language therapy	6,00	1/1

## Recommended knowledge

No prior knowledge is required



## 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 To know the interactions between the nervous system, cellular communication and their relationship with human behavior.
- R2 To know and relate the macroanatomy of the nervous system with its 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):

BASIC		Weighting			
		1	2	3	4
CB4	Students can communicate information, ideas, problems and solutions to both specialist and non-specialist			X	
CB5	Capacity to develop those learning skills needed to undertake further studies with a high degree of autonomy			X	

SPECIFIC		Weighting			
		1	2	3	4
CE1	Understand and integrate the biological foundations of Speech: Anatomy and Physiology				X
CE37	Master the terminology that allows one to interact effectively with other professionals				X

TRANSVERSAL		Weighting			
		1	2	3	4
CT7	Having an open and flexible attitude to lifelong learning				X



## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2	50,00%	Written exam
R1, R2	40,00%	Practical work assignments assessment
R1, R2	10,00%	Attendance and participation of in-person formative activities

### Observations

## Learning activities

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

M1	On-Campus Class
M2	Practical Class
M3	Seminar
M4	Laboratory
M5	Individual Work
M6	Group Work
M7	Work Exhibition



Universidad  
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## Course guide

Year 2023/2024

1171103 - Fundamentals of Neuroscience

- M8 Clinical Case Analysis
- M9 Prácticas en clínicas y centros



## 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	R1, R2	24,00	0,96
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	R1, R2	12,00	0,48
GROUP WORK EXHIBITION. Application of multidisciplinary knowledge M7	R1, R2	6,00	0,24
SEMINAR. Supervised monographic sessions with shared participation M3	R1, R2	6,00	0,24
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. M1	R1, R2	9,00	0,36
ASSESSMENT. Set of oral and/or written tests used in initial, formative or additive assessment of the student M1	R1, R2	3,00	0,12
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>



## 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 M3	R1, R2	36,00	1,44
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 M5	R1, R2	54,00	2,16
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>





## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

Content block	Contents
1. Introduction to Neurosciences	DU 1. Introduction to the study of Neurosciences DU 2. Methods of study and research in Neurosciences
2. Cells of the Nervous System	DU 3. Neuron and neuroglia DU 4. Neuronal communication: synaptic transmission
3. Anatomy and Functionality of the Nervous System	DU 5. Fundamental organisation of the Nervous System DU 6. Phylogenesis and ontogenesis of the Nervous System. DU 7. Structures of the Nervous System DU 8. The cerebral cortex DU 9. The cerebrovascular system DU 10. Cerebral Asymmetries DU 11. Brain left-handedness and brain dimorphisms

### Temporary organization of learning:

Block of content	Number of sessions	Hours
1. Introduction to Neurosciences	6,00	12,00
2. Cells of the Nervous System	4,00	8,00
3. Anatomy and Functionality of the Nervous System	20,00	40,00



## References

- Carlson, N. R. (2014). **Fisiología de la conducta**. Madrid: Prentice Hall.
- Clark, D.L., Boutros, M.F. y Méndez, M.F. (2012). **El cerebro y la conducta. Neuroanatomía para Psicólogos** (2ª ed.). México: Manual Moderno.
- Cuetos, F. (2012). **Neurociencia del Lenguaje. Bases neurológicas e implicaciones clínicas**. Madrid: Panamericana.
- Felten, D.L. y Shetty, A.N. (2010). **Netter: Atlas de Neurociencia**. Barcelona: Elsevier-Masson.
- Felten, D.L. y Summo, M. (2019). **Netter: Cuaderno de Neurociencia para colorear**. Barcelona: Elsevier-Masson.
- Haines, D.E. y Mihailoff, G.A. (2019). **Principios de neurociencia: Aplicaciones básicas y clínicas** (5ª ed.). Madrid: Elsevier.
- Kandel, E.R., Schwartz, J.H. y Jessell, T.M. (2001). **Principios de neurociencia**. Madrid: McGraw Hill-Interamericana.
- Kolb, B. y Whishaw, I. Q. (2017). **Cerebro y conducta: una introducción**. Madrid: McGraw-Hill
- Maestu', F., Ríos Lago, M., y Cabestrero, R. (2008). **Neuroimagen: Técnicas y Procesos Cognitivos**. Barcelona: Masson-Elsevier.
- Muñoz Marrón, E., & Periañez, J. A. (2012). **Fundamentos del aprendizaje y del lenguaje**. Barcelona: Editorial UOC.
- Obler, L.K. y Gjerlow, K. (2001). **El lenguaje y el cerebro**. Madrid: Cambridge University Press.
- Redolar, D. (2021). **Neurociencia cognitiva**. Madrid: Editorial Médica Panamericana.
- Waxman, S.G. (2010). **Neuroanatomía clínica** (26ª ed.). Madrid: McGraw-Hill.



## Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

**Situation 1: Teaching without limited capacity** (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

**Situation 2: Teaching with limited capacity** (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

☒ Microsoft Teams

☒ Kaltura



## **Situation 3: Confinement due to a new State of Alarm.**

In this case, the following changes are made:

### **1. Educational Activities of Onsite Work:**

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

☒ Microsoft Teams

☒ Kaltura

Explanation about the practical sessions:



## 2. System for Assessing the Acquisition of the competences and Assessment System

### ONSITE WORK

#### Regarding the Assessment Tools:

☒ The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

☐ The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

#### Comments to the Assessment System: