# COURSE DATA

## DATA SUBJECT

**Code:** 35274
**Name:** Neurology and Language Neuropsychology
**Cycle:** Undergraduate Studies
**ECTS Credits:** 9
**Academic year:** 2026-27

## STUDY (S)

| Degree | Center | Acad. year | Period |
|---|---|---|---|
| 1203 - Degree in Speech Therapy | Facultat de Psicologia i Logopèdia | 1 | Annual |

## SUBJECT-MATTER

| Degree | Subject-matter | Character |
|---|---|---|
| 1203 - Degree in Speech Therapy | Biology | BASIC |

## COORDINATION

ARENAS FENOLLAR M CARMEN

FERNANDEZ RODRIGUEZ CONRADO ANTONIO

# SUMMARY

The course in Neurology and General and Language Neuropsychology provides students with the current basic knowledge of neurology and neuropsychology, providing an anatomical, physiological, and functional foundation of the human nervous system, the basis of higher cognitive functions such as language. This course consists of an anatomical and physiological section of the nervous system, which will allow students to understand the organic substrate¿macro and microscopic¿on which human thought is based, with language being a fundamental component. The second section discusses the basic procedures used by neurologists to familiarize students with the main neurological techniques. The third section explains basic pathology, developing the different forms of disease that the nervous system can present and their distinctive characteristics. The fourth section addresses the concept and study methods in neuropsychology. The fifth section studies hemispheric specialization in relation to language. The sixth block examines the main etiologies of language disorders and, finally, addresses the main neuropsychological language disorders.
This course provides students with the necessary skills to properly understand subsequent courses assigned to the Psychobiology area of knowledge, such as the compulsory courses "Speech Therapy Intervention in Acquired Brain Damage," "Neurodegenerative Disorders," and "Speech Therapy Intervention in Neurodegenerative Disorders."
The objective is for Speech Therapy graduates to gain a basic understanding of the human nervous system

and thus be able to face the challenges their profession poses. These include the diagnosis and rehabilitation of language disorders such as acquirable brain damage, understanding the foundations of human language from a normal and pathological perspective, and working in highly multidisciplinary teams.

## PREVIOUS KNOWLEDGE

### RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

### OTHER REQUIREMENTS

Since this course is part of the first year of the program and is of a basic nature, no prior knowledge is required; however, prior knowledge of biology, anatomy, and physiology is advisable for a faster and more complete understanding of the subject.

## COMPETENCES / LEARNING OUTCOMES

### 1203 - Degree in Speech Therapy

Be able to perform a brief neuropsychological assessment of a real case.

Be trained to prepare a neuropsychological report of a real clinical case.

Develop communication skills in the general population.

Explore, evaluate, diagnose and predict the evolution of communication and language disorders from a multidisciplinary perspective.

Hold interconsultations and make referrals to other healthcare and education professionals.

Know the limits of their field of activity and learn to identify when an interdisciplinary treatment is necessary.

Know the normal development of language.

Know the procedure of neuropsychological evaluation.

Learn the different neuropsychological disorders, their diagnostic techniques and their main causes.

Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.

Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.

Understand and critically evaluate the terminology and research methodology of speech therapy.

## DESCRIPTION OF CONTENTS

### 1. General Neurology and language: Anatomy and physiology of the human nervous system.

In this block, anatomical and physiological concepts will be developed, delving into those most important for language function. Special emphasis will be placed on the brain mechanism that enables human language and its pathophysiology.

### 2. General and language Neurology: Neurological methodology.

The different methods for evaluating the nervous system will be explained, highlighting the diagnostic process in Neurology and the various tools that current technology makes available to professionals dealing with various neurological disorders.

### 3. General and language Neurology: Neurological Pathophysiology.

Neuropathology, that is, the different types of diseases that can affect the human nervous system according to their etiology and differential characteristics, will be explained from an etiological-clinical perspective so that students become familiar with the different types of patients they will encounter in their professional development.

### 4. General and language neuropsychology: Concept and historical development of neuropsychology.

The concept of Neuropsychology and its relationship with Psychobiology and Neuroscience will be analyzed, as well as its characteristics and different orientations. Greater emphasis will be placed on all aspects related to advances in the Neuropsychology of Language.
This block will also explore, in both theoretical and practical classes, the phylogenetic origin of language, presenting and discussing current theories and their main arguments, and analyzing in-depth advances in language genetics.

### 5. General and neuropsychology of language: Hemispheric specialization and language

The main hemispheric specializations, both functional and anatomical, will be presented, with further

elaboration on those related to linguistic processes. To this end, split-brain studies and the main methodologies used in this field will be analyzed from both a theoretical and practical perspective. The main gender differences in hemispheric specialization and language will also be identified.

## 6. General and language neuropsychology: Neuropsychological language disorders.

The semiology of aphasic disorders, the main neural models of language, the areas of examination, and the different types of aphasia will be analyzed. Other neuropsychological language disorders will also be identified: alexia, dyslexia, agraphia, aprosodia, dysphasia, acalculia, and apraxia.

## 7. General and language neuropsychology: Neuropsychological intervention.

The different areas of action from a neuropsychological perspective will be discussed, analyzing the possible recovery of function. The main theories of functional recovery will be described, understanding the determining factors and mechanisms of recovery in the central nervous system.

# WORKLOAD

### PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Theory | 60,00 |
| Laboratory | 30,00 |
| **Total hours** | **90,00** |

### NON PRESENCIAL ACTIVITIES

| Activity | Hours |
|---|---|
| Attendance at other activities | 10,00 |
| Individual or group project | 20,00 |
| Independent study and work | 25,00 |
| Preparation of lessons | 40,00 |
| Preparation for assessment activities | 20,00 |
| Resolution of case studies | 20,00 |
| **Total hours** | **135,00** |

# TEACHING METHODOLOGY

- In-person theoretical classes: presentation of content, presentation of audiovisual material, discussion of content in class.
- Practical classes and seminars on the topics indicated in the Content Description section.

- Student work: preparation and defense of assignments, discussion of content covered in theoretical and practical classes, research on the subject matter, etc.
- Scheduled individual and/or small group tutorials.
- Student study, preparation for and completion of assessment tests.
- The duration of each activity is divided equally between the two semesters, taking into account the workload specified in this guide.

## EVALUATION

- Assessment of theoretical and practical content through a written test on the student's level of knowledge (solving questions and problems similar to those posed in the in-person theoretical and practical classes). A test will be given on Neurology content from the first semester and another on Neuropsychology content from the second semester. It will account for 70% of the final grade. This part of the assessment is fully recoverable in the second sitting. The final grade for this section will be obtained by averaging the grades for the Neurology section (first semester) and the Neuropsychology section (second semester), provided that a minimum mastery of 50% has been demonstrated in both the first and second semester content.
- Oral or written presentation of reports or individual or group assignments, submitted throughout the first semester (Neurology) and the second semester (Neuropsychology) within the deadline established by the professor for each case, which demonstrates that the student has developed competencies in knowledge, understanding, and application of the subject content. This will constitute 20% of the final grade. This grade will be retained for the second sitting. If a student has not submitted any paper or report and has no grade for this part, they may only recover the portion of this percentage that has not been assessed through group work and/or in-class presentations. The professor will assess the student as appropriate on the day of the second sitting exam (by submitting a paper or completing a supplementary report during the exam).
- Continuous assessment of theoretical and practical content will be conducted during both the first semester (Neurology) and the second semester (Neuropsychology), as well as assessment of student competencies through active participation in class activities, seminars, and workshops. The work completed on these activities will be submitted to class at the end of the in-person session or through a report within the timeframe determined by the instructor. Students will always be provided with corrections, either individually or collectively. This will constitute 10% of the final grade and cannot be recovered in the second sitting.

Minimum requirements:
To pass the course, a minimum proficiency score of 50% must be achieved in the first assessment section (assessment of theoretical and practical knowledge through a written test) for both the first-semester and second-semester content.
In the event of fraudulent practices, the procedures established in the Protocol for action against fraudulent practices at the University of Valencia (ACGUV 123/2020) will be followed:
https://www.uv.es/sgeneral/Protocols/C83sp.pdf

## REFERENCES

**Basic:**


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- DOMINGUEZ, A., LEÓN, J.A., ALONSO, M.A. (2022). Neurocognición del lenguaje. Más allá de las palabras. Editorial Médica Panamericana. Madrid
- GONZÁLEZ NOSTI, M., HERRERA GÓMEZ, E. (2019). Evaluación Neuropsicológica del Lenguaje. España: Sintesis.
- CUETOS, F., GONZÁLEZ, J., DE VEGA, M. (2015). Psicología del lenguaje. Editorial Médica Panamericana. Madrid
- WEBB, W.G. y ADLER, R.K. (2010). Neurología para el logopeda (5ªed.). Ed. Elsevier, Madrid.


**Supplementary:**


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- ROPPER, A.H., SAMUELS, M.A., KLEIN, J.P. y cols. (2017). Adams y Victor, principios de neurología. Ed. McGraw-Hill/Interamericana, México
- ARNEDO, M.; BEMBIBRE, J.; TRIVINO, M. (2013). Neuropsicología. A través de casos clínicos. Ed. Médica Panamericana, Madrid
- BRUNA, O.; ROIG, T.; PUYUELO, M.; JUNQUÉ C. Y RUANO, A. (2011). Rehabilitación neuropsicológica. Intervención y práctica clínica. Elsevier, Masson. Barcelona
- GONZÁLEZ-LÁZARO, P. y GONZÁLEZ-ORTUÑO, B. (2012). Afasia. De la teoría a la práctica. Ed. Médica Panamericana, Madrid.