



## COURSE DATA

### DATA SUBJECT

**Code:** 42710  
**Name:** Developments in neuroscience of language  
**Cycle:** Master's Degree  
**ECTS Credits:** 10  
**Academic year:** 2025-26

### STUDY (S)

Degree	Center	Acad. year	Period
2119 - Master's Degree in Speech Therapy Intervention Specialisation	Facultat de Psicologia i Logopèdia	1	First quarter

### SUBJECT-MATTER

Degree	Subject-matter	Character
2119 - Master's Degree in Speech Therapy Intervention Specialisation	Developments in neuroscience of language	COMPULSORY

### COORDINATION

ROSELL CLARI VICENTE JOSE

## SUMMARY

The subject "Advances in Language Neuroscience" is a compulsory four-month course in the Master of Speech Therapy. It consists of 10 credits to be taken in the first four-month period and has a theoretical-practical nature.

In the first block, the main neurolinguistic paradigms are described (traditional, cognitive, and pragmatic-functional), focusing on the implications of speech therapy assessment and rehabilitation in patients with brain damage (aphasia and dementia), as well as the study and description of the most important characteristics of these patients.

In the second block, knowledge is provided on psycholinguistic aspects of bilingualism: development of bilingualism, neurocognitive types and consequences, code switching, lexical organization, bilingual brains, and implications of bilingualism in speech therapy intervention in the family, clinical and educational context.

The aim of teaching the course is for students to assimilate its contents, handle them in a practical way and be able to apply them in a real way both to research and to professional speech therapy practice.



## PREVIOUS KNOWLEDGE

### RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

### OTHER REQUIREMENTS

It is recommended that the student has basic knowledge of Neurology, Neurophysiology, Anatomy and Physiology of Language Production and Comprehension, as well as the most common Pathologies and basic computer notions.

## COMPETENCES / LEARNING OUTCOMES

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Adoptar un compromiso ético con los derechos humanos, la igualdad de oportunidades y la no discriminación por razones de género, edad, creencias, discapacidad o por otras razones.

Aplicar la metodología científica a la hora de observar, registrar, y comprobar la efectividad y consecuencias de los planes de intervención para fomentar el avance científico de la disciplina.

Conocer y valorar de forma crítica diferentes aspectos de la investigación en el ámbito de la Logopedia.

Establecer pronósticos de evolución de acuerdo con las características específicas del paciente.

Formular pronósticos de evolución en función de los datos procedentes de los diferentes especialistas que integran el equipo multidisciplinar.

Integrar la información procedente de diferentes especialistas para poder ofrecer un diagnóstico coherente del paciente.

Registrar, sintetizar e interpretar los datos recogidos a partir de los avances tecnológicos, integrándolos en el conjunto de la información del paciente y comunicarlos de manera comprensible a los diferentes agentes implicados en el enfoque terapéutico.

Seleccionar criterios adecuados para evaluar la efectividad del tratamiento y las posibles modificaciones.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

## DESCRIPTION OF CONTENTS



## 1. Advances in exploration of language and their rehabilitation in patients with brain damage.

- 1.- Neurological pathologies and language disorders.
- 2.- Traditional, cognitive and pragmatic-functional aphasiological paradigms of linguistic processing.
- 3.- Logopedic rehabilitation in Aphasia, from semiological or symptomatic rehabilitation to functional rehabilitation.
- 4.- Computer programs and other useful technological resources for language rehabilitation.

## 2. Psycholinguistic aspects of bilingualism

1. Linguistic development in bilingual contexts
  - Acquisition contexts.
  - The role of input.
  - Simultaneous vs. sequential language acquisition.
  - Subtractive vs. additive bilingualism.
2. Neurocognitive consequences of bilingualism.
  - Code switching.
  - Organization of the lexicon.
  - Critical period.
  - Bilingual brains.
  - Bilingualism in speech therapy intervention: family, clinical and educational context

### WORKLOAD

#### PRESENCIAL ACTIVITIES

Activity	Hours
Tutorials	10,00
Theory	45,00
Laboratory	15,00
Classroom practices	30,00
<b>Total hours</b>	<b>100,00</b>

#### NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	40,00
Independent study and work	40,00
Preparation of lessons	10,00
Preparation for assessment activities	30,00



Resolution of case studies	30,00
<b>Total hours</b>	<b>150,00</b>

## TEACHING METHODOLOGY

¿ Theoretical classes with presentation by the teacher and student participation in discussion and reflection on issues of oral or written.

¿ Seminars and activities in the classroom or laboratory supervised by the teacher that include resolution of cases, management specific software, performing presentation before the group work, discussion and conclusion.

¿ Activities of teamwork.

¿ Individual and group tutoring.

## EVALUATION

The student's evaluation will result in a grade ranging from 0 to 10 points. These grades represent: from 5 points, passed; from 7 points, notable; from 9 points, excellent; from 9,5 points, excellent proposed for honors.

The evaluation of the subject will be carried out taking into account the following evaluation systems:

1.- Continuous and progress evaluation: this will be based on reports on practical cases discussed and carried out in class or in seminars, individual or group works and activities, proposed in the different classes of the subject and scheduled by the different professors of each of the modules that make it up. In the continuous evaluation, the participation of the students in the scheduled activities, classes, and seminars will be taken into account and included. The continuous evaluation will account for 75% of the final grade. This grade is a function of the weighted sum of the evaluations of each of the modules that make up the subject, based on the number of credits delivered relative to the total (e.g.: For a 2-credit module, the percentage relative to the final grade of the subject (10 credits) is 20%).

2.- Theoretical-practical test based on case studies. The students will perform a clinical history, an evaluation using the instruments and tools provided by the professors, and a presumptive diagnosis. The students will schedule a rehabilitation or stimulation for the person who has been administered the test(s) according to the professor's indications. The theoretical-practical test will account for 25% of the final grade.

Class attendance is compulsory and to pass the course you will need to attend at least 80% of the classes. Non-attendance must be due to well-documented reasons of force majeure (supervening health condition, death of a relative up to the third degree, court summons, official examination, accompanying a first-degree



relative for medical reasons). The contents and activities carried out in the classroom classes are considered recoverable through specific work, except for activities that require instruments, techniques, materials or contents, which cannot be repeated or simulated (e.g.: videos, audios and other materials that are part of real clinical cases). Each teacher responsible for the module to be taught will inform the students which contents are recoverable and which are not, as well as how and when they will be recovered.

## REFERENCES

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- Peña-Casanova, J., & Cáceres-Guillén, I. (2019). Programa integrado de exploración neuropsicológica: Test Barcelona-2. Test-Barcelona Services, SL.
- Pérez, M.A. y García, J. (2019). Intervención neuropsicológica en los Trastornos Adquiridos del Lenguaje. Madrid, Síntesis.
- Ada, A. F., Campoy, F. I., & Baker, C. (2017). Guía para padres y maestros de niños bilingües: 2. Multilingual Matters.
- Costa, A. (2017). El cerebro bilingüe: la neurociencia del lenguaje. Debate
- García-Molina, A, y Peña-Casanova, J. (2022). Fundamentos históricos de la Neuropsicología y la Neurología de la conducta. Test Barcelona Services SL
- Rosell Clari, V., Cervera Crespo, T. y Hernández Sacristán, C. (coords.). (2018). Lenguaje y



funcionamiento ejecutivo. Una perspectiva pluridisciplinar. Tirant lo Blanch.

- Schwieter, J. W. (Ed.). (2019). The Handbook of the Neuroscience of Multilingualism. Wiley Blackwell.
- Terradillos, E. & López-Higes, R. (2016). Guía de intervención logopédica en las afasias. Síntesis.
- Valles González, B. (2014). Programa de Estimulación Metalingüística en Teoría de la Mente para personas con demencia. Edición: Beatriz Valles González.