

**Advances in Communication and Language
Neurobiology**

Code: 43609
ECTS Credits: 6

Degree	Type	Year	Semester
4315497 Communication and Language Disorders	OB	0	1

Contact

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Teachers

Margalida Coll Andreu
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Use of Languages

Principal working language: catalan (cat)

External teachers

Núria Duaso Caldés

Prerequisites

There are no prerequisites

Objectives and Contextualisation

The goal of this course is to update the knowledge of the functional neuroanatomy of language and communication. For this purpose, we need to understand both the underlying neurobiological mechanism and the genetic and epigenetic mechanisms involved in the related disorders, as well as the crucial role of interactions between genome and environmental risk factors and between the genome and protective environments. It is also necessary to understand the maturation of the nervous system throughout the life span, the experience-dependent functional reorganization and the recent neurochemical advances on communication and language disorders

Competences

- Apply the fundamentals of bioethics and act according to the ethical code of the profession considering the cultural diversity and the limitations associated with various diseases.
- Apply the scientific method in professional practice.
- Collect, analyze and critically use sources of information necessary for the evaluation and speech therapy.
- Develop professional practice from the perspective of quality and continuous improvement, able to evaluate and optimize.
- Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.

- Master the skills and resources necessary to teamwork and multidisciplinary groups.
- Students can communicate their conclusions and the knowledge and rationale underpinning these to specialist and non-specialist audiences clearly and unambiguously.
- That students are able to integrate knowledge and handle complexity and formulate judgments based on information that was incomplete or limited, include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
- That students have the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.

Learning Outcomes

1. Adapt performance in the context of the neurobiology of communication and language the code of conduct.
2. Ask relevant questions and adequately defined research objectives and hypotheses to solve problems in the field of neurobiology of communication and language.
3. Conduct a critical reading of a scientific publication in the field of neurobiology of communication and language, based on the methodological quality of the research design used and the scientific practice of their results or contributions and relevance.
4. Conduct a systematic review in the field of neurobiology of communication and language to synthesize the best available scientific evidence.
5. Design and conduct appropriate to the professional context in the context of the neurobiology of language communication and presentations.
6. Identify constraints and biases of discipline in the context of the neurobiology of communication and language.
7. Knowing the language of speech therapy no information sources in the context of the neurobiology of language and communication in order to properly interpret the information provided by other professionals.
8. Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
9. Recognizing the importance and identify resources related to the neurobiology of communication and language for a permanent update in the exercise of professional activity.
10. Recognizing the need for additional neurobiological explorations complementary sources of information collected.
11. Students can communicate their conclusions and the knowledge and rationale underpinning these to specialist and non-specialist audiences clearly and unambiguously.
12. That students are able to integrate knowledge and handle complexity and formulate judgments based on information that was incomplete or limited, include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
13. That students have the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.
14. Use the documentary sources to obtain relevant information in the field of neurobiology of communication and language, selecting the most appropriate and arguing screening criteria and quality of them.
15. Write reports in the field of neurobiology of communication and adapting to the standards of major scientific associations language.

Content

Unit 1: Advances in functional neuroanatomy of audition, language and communication.

Unit 2: Introduction to the Genomics of cognitive capacities.

Unit 3: Brain development throughout the life span

Unit 4: Experience-dependent functional reorganization.

Unit 5: Genomics and Epigenomics in language and communication disorders.

Unit 6: Genomics and Epigenomics in Intellectual disability.

Unit 7: Advances in neurochemistry of communication and language disorders

Methodology

The teaching methodology is based on different types of training activities. Depending on the case, master classes, seminars, supervised and autonomous activities will be carried out.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Exposition	4.5	0.18	1, 12, 11
Master classes	27	1.08	1, 7, 6, 12, 11, 9, 8
Type: Supervised			
Tutorials (on line and one-to-one)	7.5	0.3	
Type: Autonomous			
Documentation	8	0.32	3, 4, 13, 10, 8, 14
Preparing oral presentation	7	0.28	1, 5, 15, 2, 6, 11, 14
Reading scientific texts	40.5	1.62	7, 2, 6, 12, 13, 14
Study	40.5	1.62	1, 12, 13, 8
Writing and preparing reports	15	0.6	1, 7, 5, 15, 2, 6, 9

Assessment

Assessment (learning evidences)

According to "The assessment guidelines of the Faculty of Psychology" (Approved by Junta Permanent 16th april, 2018), the subject will be assessed based on the following learning evidences (EV):

EV1 (35% of the final grade): Written report about a relevant question on Neurobiology of Audition, language and communication.

EV1a: Documentation report containing the bibliographic resources that will be used to elaborate the writing report. (5% of the final grade)

EV1b: Written report about a relevant question on Neurobiology of Audition, language and communication (maximum 5 pages). (30 % of the final grade)

EV2: Oral presentation and defense of the elaborated report. (25% of the final grade)

EV3: Written Report. (30 % of the final grade).

EV4: Attendance (10% of the final grade)

Total grade

The total grade is obtained from the weighted average of EV1 to EV4 grades.

Reassessment

In order to be allowed to do the reassessment test, the students are required to have completed learning evidences with a weight equal or greater than 2/3 for the whole subject and have obtained a total grade lower than 5 (out of 10).

Given their specificities, EV2 and EV4 are excluded from reassessment.

Reassessment will consist in elaborating again evidences EV1 and/or EV3 provided the student had obtained a grade lower than 5 in EV1 and/or EV3.

The maximum grade that can be obtained after reassessment is 5 (out of 10)

Subject passed

The subject will be considered passed when the weighted average of all grades (EV1 to EV4) is equal to or greater than 5 (out 10) or its reassessment grade is 5.

Definition of "Non-assessable student"

Students who have not performed any of the written reports (EV1a, EV1b, or EV3) or have completed learning evidences with a weight equal or lower than 40,5 % for the whole subject will be marked as "Non-assessable" Grade.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
EV1a: Documentation report containing the bibliographic resources	5	0	0	7, 3, 4, 14
EV1b: Written Report (max 5 sheets)	30	0	0	1, 5, 3, 4, 15, 2, 12, 11, 13, 9, 10, 8
EV2: Oral presentation and defense	25	0	0	1, 5, 2, 6, 12, 11, 8
EV3: Written Report	30	0	0	6, 12, 9, 10, 8
EV4: Attendance	10	0	0	1, 8

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