Teaching Guide				
Identifying Data				2023/24
Subject (*)	Biological Bases of Language		Code	652546004
Study programme	Máster Universitario en Estudos Avanzados sobre a Linguaxe, a Comunicación e as súas Patoloxías			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	First	Optional	3
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Psicoloxía			
Coordinador	Fernandez Garcia, Rosa Maria	E-mail	rosa.fernandez@udc.es	
Lecturers	Fernandez Garcia, Rosa Maria	E-mail	rosa.fernandez@udc.es	
Web				
General description	The teaching will be face-to-face in the videoconference classroom, 2. Methodologies * Teaching methodologies that are maintained All those described in the Guide. The student will have access to the materials through Studium of the USAL 3. Mechanisms of personalized attention to students Through Teams and email during tutoring hours. 4. Modifications in the evaluation There are no modifications. * 5. Modifications to the bibliography or webography There are no modifications. 6. This course is taught in Spanish but international students will receive tutorials in English. Teaching material will be available in English.			

Study programme competences	
Code	Study programme competences
A4	Los alumnos/as sabrán realizar una intervención en trastornos específicos del lenguaje oral tales como las disartrias,alteraciones del lenguaje en el envejecimiento y trastornos degenerativos, las alteraciones del lenguaje en enfermedades mentales,trastornos del espectro autista, etc
A5	Sabrán realizar una intervención en las dificultades de lectura y de los trastornos específicos del lenguaje escrito.
B2	Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación deideas, a menudo en un contexto de investigación
C6	Valorar la importancia que tiene la investigación, la innovación y el desarrollo tecnológico en el avance socioeconómico ycultural de la sociedad.

Learning outcomes			
Learning outcomes	Study programme competences		
They can coherently describe the biological, anatomical and neuropsychological bases of language and communication problems. They can provide information on the classification, terminology, and description of language and communication disorders. They are able to recognize and discriminate between a variety of disorders: specific language development disorders, specific language disorder, language delays, phonetic and phonological disorders; communication and language disorders associated with hearing and visual deficits, attention deficit, autism spectrum disorders, specific disorders of written language; reading difficulties; speech fluency disorders; dysarthrias; dysphonia; language alterations in aging and degenerative disorders; alterations of language and communication in mental illnesses; selective mutism and language inhibitions.	AR4 AR5	BR1	CR5

Contents	
Topic	Sub-topic
UNIT 1. Introduction to the nervous system	Cells of the nervous system: neurons and glia. Structure of the nervous system. General characteristics. Central nervous system and peripheral nervous system. Brain plasticity.

UNIT 2. Cell biology of the nervous system	Neurophysiology of the neuron. Membrane potential. Action potential. Conduction of the action potential.
UNIT 3. Neurochemistry of synaptic transmission	The synapse. Synapse types, synapse elements, nerve impulse transmission, postsynaptic potentials, neuronal integration, autoreceptors
UNIT 4: Neurotransmitters	Acetylcholine, monoamines, amino acids, lipids. Non-synaptic chemical communication. Pharmacology of the synapse.
UNIT 5: Development of the nervous system	Central nervous system and peripheral nervous system, parts and functions
UNIT 6: Alterations of the nervous system due to early stress	Effects of early experience on the development of the nervous system. Neural plasticity, consequences of early stress.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A5 A4 B2 C6	7.5	22.5	30
Workbook	B2 C6	4	16	20
Supervised projects	B2 C6	4	12	16
Student portfolio	B2 C6	2	4	6
Personalized attention		3	0	3
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	General scheme of a typical three-hour session: Theoretical exposition (50 minutes), visualization of complementary videos, presentation of doubts and comments. The presentations will be recorded and can be consulted online. In the case of the master session, the teaching staff will present the contents of the topic supported by a power point presentation. The master session will be used both for the theoretical introduction of the topic and for the presentation of the cases or practices that are planned. Each subject is developed in two-hour sessions, so the master session can cover around one hour per session. The teacher may vary this distribution, always compensating it with the rest of the methodologies so as not to increase the ECTS load of the recommended reading subject.
Workbook	Completion of a project on a book by Oliver Sacks, chosen by the student.
Supervised projects	Each two-hour class session contains time dedicated to viewing a related video, or commented reading of a text related to the teacher's presentation. The expected duration will be about 30 minutes per two-hour session.
Student portfolio	In each class session, the student must answer an individual questionnaire about the reading carried out related to the cases analyzed or the practices carried out. These questionnaires, in addition to the corresponding power point presentations for each class, must be included in their portfolios. In it they will also collect any comments, reflections or activities carried out during the course.

Personalized attention	
Methodologies	Description
Guest lecture / keynote speech Workbook Student portfolio Supervised projects	Personalized attention by email, questions, queries, supervised work, etc.

Assessment			
Methodologies	Competencies	Description	Qualification
Guest lecture / keynote speech	A5 A4 B2 C6	Exposición por parte do profesor da materia. Consulta de dúbidas.	40

Workbook	B2 C6	Traballo da lectura recomendada. Un libro de Oliver Sacks	20
Student portfolio	B2 C6	Outros traballos relacionados cas prácticas	20
Supervised projects	B2 C6	Traballo sobre o libro elexido de Oliver Sacks	20

Assessment comments
There will be an objective test, multiple choice questions, with "true or false" answers. The rest of the qualification will be determined by the following criteria: Realization of readings and supervised work.

Sources of information	
Basic	J Pinel, BiopsicologíaCarlsson, Fisiología de la conductaKandel. Principios de Neurociencia
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.