

**COURSE DATA****DATA SUBJECT****Code:** 35272**Name:** Anatomy of Language and Hearing Organs**Cycle:** Undergraduate Studies**ECTS Credits:** 6**Academic year:** 2026-27**STUDY (S)**

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

SUBJECT-MATTER

Degree	Subject-matter	Character
1203 - Degree in Speech Therapy	Human anatomy	BASIC

COORDINATION

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SUMMARY

The subject *Anatomy of the organs of language and hearing* is basic training in the first year and semester of the Degree's teaching. Its extension is 6 ECTS credits, 4.5 of which are theoretical teachings and 1.5 practical and laboratory.

The general objective of this subject is to provide students with descriptive, topographical, and functional knowledge of the different organs and systems of the human body that allow the development, management, and integration of language and communication in all its diversity.

In this subject, the primary organization of the human body is studied, and the morphological and functional description of the structures necessary for the emission and nuance of language sounds, facial expressions, and the production of written language or signs is explored. Among these structures, the skull and facial muscles, the speech and sensory organs, as well as the nervous system stand out. Vital systems, such as the respiratory and circulatory systems, are also addressed. Likewise, the general and specific embryological development of the nervous system, the face and the phono articulatory organs, and the senses related to language is described, which allows us to understand the basis of many genetic and embryonic pathologies that affect language and communication, who frequently need speech therapy professionals for their rehabilitation.



Exhaustive knowledge of the morphological, relational and functional aspects of the different organs and systems of the human body related to language and communication in all its variants is essential in the training of the speech therapist, in addition to providing a solid and necessary foundation for the integration of the knowledge taught in the rest of the subjects throughout their training as speech therapists.

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 possesses basic knowledge of biology and sufficient knowledge of vocabulary to understand biological concepts and conceptual terminology of anatomical structures and the evolution of language from animals to humans.

This subject is closely related to Physiology, Neuroscience and Neuropsychology of the first course and clinical subjects related to otolaryngology and nervous system.

COMPETENCES / LEARNING OUTCOMES

1203 - Degree in Speech Therapy

Be able to develop skills such as regulating their own learning, solving problems, reasoning critically and adapting to new situations.

Know the anatomy of the organs of speech, hearing and voice.

Manage the technologies of communication and information.

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.

Use the exploration techniques and instruments typical of the profession and record, synthesize and interpret the data provided by integrating them into the information set.

Work in the school, healthcare and healthcare settings as part of the professional team. Advice on the development, implementation of care and education policies on topics related to speech therapy.

DESCRIPTION OF CONTENTS



1. Introduction.

Organization of the human body. Levels of organization. Anatomical position. Plans and sections of the body. Basic terminology.

2. General embriology.

In this block, students will learn the basis of embryonic development, the endogenous and exogenous causes that can alter this development and at what stage and how the head, the nervous system and the senses related to language develop in order to understand why. of genetic and embryonic pathologies that produce functional deficiencies.

Topic 1- Overview of embryonic development

Topic 2- Development of the nervous system

Topic 3- Development of the face, the phonoarticulatory organs and the sense organs.

3. Cranial Skeleology.

Here the students will know the morphology of the skull and its cavities, especially those that are related to speech and hearing.

Topic 4-Study of the cranial vault. Study of the base of the skull.

Topic 5-Study of the viscerocranium. Orbital, nasal and buccal cavities. paranasal sinuses

4. Phonoarticulatory organs.

In this block the students will know the structural and functional morphology of the larynx and pathways and muscles related to the emission and nuance of sounds and breathing.

Topic 6- Nose and nostrils. Oral cavity. Teeth. Tongue. Lingual muscles. Salivary glands. functional dynamics

Topic 7- Study of the pharynx. Pharyngeal mucosa. Pharyngeal regions. Pharyngeal muscles. Vascularization. Innervation. functional dynamics

Topic 8- Study of the laryngeal skeleton. cartilage. ligamentous membranes. SNM of the phonator.

Topic 9- Internal morphology of the larynx. anatomical spaces. Functional dynamics of the larynx. Innervation and Irrigation.

Topic 10- Study of the respiratory tract: Trachea. Bronchi. Study of the lungs. Vascularization. Innervation.



Functional dynamics of breathing.

5. Peribucal Masticatory and anterior cervical musculature.

In this block, the muscles related to facial expression, chewing and swallowing will be detailed.

Topic 11- Suprahyoid region. Infrahyoid region: Musculature. Irrigation and innervation. functional dynamics
Topic 12- SNM of the facial. vascularization. Functional dynamics. Temporo-mandibular joint. Mobilizing muscles of the jaw. vascularization. Innervation. functional dynamics

6. Upper limb.

This block will be dedicated to the study of osteoarthrology and the basic muscles of the upper limb, necessary for the understanding of the processes of writing and sign language.

Topic 13- Osteoarthrology. brachial plexus. Neuromuscular systems of the upper limb. The writing gesture. Vascularization. Functional dynamics.

7. Thoraco-Abdominal walls.

In this block, the osteoarthrology and musculature of the body walls will be studied, with special attention to the musculature necessary for breathing and phonation.

Topic 14 -Rib cage: osteostrology. Ligaments. intercostal muscles. Irrigation and Innervation. Functional dynamics. Diaphragm. Irrigation and innervation. Functional dynamics.

Topic 15- Abdominal muscles. Innervation and Irrigation. Functional dynamics of the abdominal press.

8. Cardio-Circulato.

This block will analyze, in general terms, the circulatory system and the functioning of the heart, with the aim that the student body can later understand in this subject or in others, the alterations derived from the loss of blood supply.

Topic 16- Heart. Morphology Structure Vascularization. Innervation. Study of the great vessels.



9. Sense Organs.

In this block the student will understand the structural and functional organization of the organs of hearing and vision.

Topic 17- Sense of sight. Retina. Uvea and Choroid. sclera. Cornea. Transparent and refringent media. Crystalline. Aqueous humor. vitreous humour.

Topic 18- Neuromuscular systems of the eyeball. Irrigation of the eyeball. Vegetative and sensitive innervation of the eyeball Study of the eyeball protection system.

Topic 19- Study of hearing and balance. Inner ear: vestibular and cochlear apparatus. Receptors. Organ of Corti and Acoustic spots. vestibular nerve and acoustic nerve. Bone protection. Functional dynamics.

Topic 20- Middle ear. Barrel of the ear. Chain of ossicles. Intrinsic muscles. Eustachian tube. Functional dynamics of the middle ear.

Topic 21- External ear: tympanic membrane. External auditive conduct. Ear pavilion. Irrigation of the different parts of the ear.

10. Nervous System.

The students will know, analyze, relate and apply the knowledge studying the structures of the central nervous system that make possible both the comprehension of language and the motor articulation of peripheral structures capable of communicating with others.

Topic 22- Levels of organization of the Central Nervous System. Peripheral nervous system.

Topic 23- The spinal cord. Structural organization. spinal nerves. spinal reflexes.

Topic 24- Study of the Brainstem. Origin and constitution of the cranial nerves. cores motor regulators. reticular substance.

Topic 25- Study of the cerebellum. Cerebellar cortex Deep nuclei of the cerebellum. Functional dynamics.

Topic 26- Diencephalon. External configuration. Functional meaning of each of its parts.

Topic 27- Telencephalon. Brain hemispheres. Basal nuclei. Limbic structures. Functional meaning.

Topic 28- Telencephalon. Organization of the cerebral cortex: Motor areas. Pyramidal and extrapyramidal pathways. Sensitive areas. Optical and acoustic pathways.

Topic 29- Functional areas of hearing and language. Aphasias.

Topic 30- Irrigation. Meningeal layers. ventricular system. Cerebrospinal fluid.

11. Learning by identification of structures in models and anatomical models.

In this block, which is practical and carried out in the laboratory, students will know and analyze through anatomical models and preparations, the different structures that are known through the theoretical



classes.

Practice (1.5 hours)

General embryology: Early stages of development; Models, sheets, reconstructions.

Practice 2 (1.5 hours)

Cranial skeleton: Vault and base of the skull. Nostrils. Oral cavity. Orbital fossa.

Practice 3 (1.5 hours)

Phonoarticulatory organs: Study of the larynx and pharynx. Models and reconstructions.

Practice 4: (1.5 hours)

Oral cavity, adnexa, jaws and teeth, pharynx tongue

Practice 5: (1.5 hours)

Facial and Masticatory Muscles. anterior cervical musculature. Superior member.

Thoracic and abdominal walls. Study of the diaphragm.

Practice 6: (1.5 hours)

Upper limbs and chest, osteoarthrology and SNM, the hand as a communication tool.

Practice 7: (1.5 hours)

Cardio-respiratory system: reconstructions, models and anatomical preparations.

Practice 8: (1.5 hours)

Sense organs: Study of the eyeball and its annexes. Study of the ear. Reconstructions, anatomical models and preparations.

Practice 9 (1.5 hours)

Nervous system: Spine, brainstem and cerebellum. Reconstructions, anatomical models and preparations

Practice 10: (1.5 hours)

Nervous system: Diencephalon, limbic system, motor and sensory cortex, Broca's areas, territories vascular. Reconstructions, anatomical models and preparations

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	45,00
Laboratory	15,00
Total hours	60,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	45,00
Preparation of lessons	15,00
Preparation for assessment activities	30,00
Resolution of case studies	0,00
Total hours	90,00

TEACHING METHODOLOGY



Development of the theoretical program through in-person classes using the whiteboard and presentations. In-person practical classes with the identification of structures in models, preparations, and anatomical images.

Non-classroom tasks including search and identification of structures in anatomical sheets, preparation of assignments, and practical class reports.

In addition, students will dedicate time to studying, preparing for, and taking the subject assessment, as well as attending scheduled individual or group tutorials.

EVALUATION

To pass the course, students must pass both the theoretical and practical content evaluations. It is an essential requirement to pass each of the parts separately to calculate the weighted average for the final grade.

Evaluation of theoretical content: The value of the theoretical test corresponds to 60% of the final evaluation. This test will consist of an exam with 30 multiple-choice questions with 4 possible answers and 10 short-answer questions. For the multiple-choice questions, incorrect answers will penalize to correct for the effect of chance, so that every three wrong answers will deduct one correct answer (or the corresponding proportional part if fewer than three are missed). Unanswered questions will not penalize. For short-answer questions, errors do not deduct points. Students must obtain a minimum score of 4 points out of 10 in each of the parts of the theoretical exam to be able to average it with the other. To pass this test, students must obtain a minimum grade of 5 points out of 10 across both parts. This section can be retaken in the second examination period (resit).

Evaluation of practical content: The value of the practical content corresponds to 40% of the final evaluation. The practical evaluation will consist of two parts. On one hand, a continuous assessment will be carried out through 10 objective tests, one for each practical session, using a virtual platform during the practical sessions. This part of the practical evaluation will account for 50% of the practical grade (20% of the course grade) and CANNOT be retaken in the second examination period. On the other hand, a practical content exam will be conducted, consisting of 10 questions to identify structures through images, which will be assessed simultaneously with the theoretical exam. This section can be retaken in the second examination period. Each of these parts must reach a minimum of 5 points out of 10 to be averaged.

Attendance at practical sessions: Attendance at practical sessions is mandatory. Unjustified absence from more than 20% of the practical sessions will result in the inability to take the practical exam of the course.

In the event of not having passed the continuous assessment part in the first examination period, in order to pass the practical content in the second examination period, it will be necessary to complete an assignment at the discretion of the professor in charge, which must be graded with at least 5 points out of 10, in addition to passing the practical content exam with at least 5 points out of 10.

The distinction of "Matrícula de Honor" (with Honors) may be awarded to students who have obtained a grade equal to or higher than 9.0, and in strict order of grades on the final official grade sheet.

In the event of fraudulent practices, proceedings will follow what is determined in the Protocol of action



regarding fraudulent practices at the Universitat de València (ACGUV 123/2020): <https://www.uv.es/sgeneral/Protocols/C83sp.pdf>

Cheating or blatant plagiarism in any task that forms part of the evaluation will result in the inability to pass the course, followed immediately by submission to the appropriate disciplinary procedures. Please note that, in accordance with article 13. d) of the University Student Statute (RD 1791/2010, of December 30), it is a student's duty to refrain from using or cooperating in fraudulent procedures in evaluation tests, in assignments performed, or in official university documents.

REFERENCES

Basic references

1. Suárez Quintanilla. Anatomía Humana para estudiantes de ciencias de la salud. (2020). 2ª edición. Ed. Elsevier
2. Drake, Mitchell y Vogl. (2020). Gray. Anatomía para estudiantes. 4ª Edición. Ed. Elsevier.
3. Moore KL. (2018). Anatomía con orientación clínica. 8ª edición. Ed. Panamericana.
4. Rodríguez; Smith (2004) Anatomía de los órganos del lenguaje, visión y audición. 2ª edición. Ed. Panamericana.
5. Langman. (2019). Embriología médica con orientación clínica. 14ª edición. Ed. Panamericana.
6. Snell, R.S. (2019) Neuroanatomía clínica. 8ª edición. Wolters Kluwer.
7. LaPointe, L.L. (2013) Fundamentos de neurociencia para la logopedia. 1ª edición. Ed. Panamericana.
8. Schünke M.; Schulte E.; Schumacher U. (2022) Prometheus. Texto y Atlas de Anatomía. 3 tomos: Anatomía general y aparato locomotor + Órganos internos + Cabeza, cuello y neuroanatomía. 5ª ed. Ed Medica Panamericana
9. Netter F.H. (2019) Atlas de anatomía humana. 7ª ed. Ed. Elsevier Masson
10. Feneis H.; Dauber W. (2021) Nomenclatura anatómica ilustrada. 11ª edición Ed. Elsevier.

Additional references

1. Atlas anatómico interactivo en 3D: Human Biodigital (<https://human.biodigital.com>). Atlas de Anatomía Humana interactivo 3D
2. PRIMAL Pictures. Acceso gratuito desde la UV (<http://www.anatomy.tv>)