VNIVERSITAT DE VALÈNCIA

Course Guide
35283 Hearing Assessment

COURSE DATA

Data Subject	
Code	35283
Name	Hearing Assessment
Cycle	Grade
ECTS Credits	4.5
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1203 - Degree in Speech Therapy	Faculty of Psychology and Speech Therapy	2	First term

Subject-matter

Degree	Subject-matter	Character
1203 - Degree in Speech Therapy	10 - Exploration of hearing	Obligatory

Coordination

Name	Department
MARCO ALGARRA, JAIME	40 - Surgery

SUMMARY

This course is designed to prepare students for the exploration of the auditory and vestibular systems that will be essential to the hearing pathology course.

Throughout the 25 topics of the theoretical program, the anatomy, physiology and pathophysiology of the auditory and vestibular systems are recalled. Also the different tests to explore the middle and inner ear in its auditory and vestibular portions. The necessary and specific examinations are also reported for each of the most important and frequent pathologies.

Acumetry. Pure tone audiometry. speech audiometry. Impedanciometry. Evoked potentials. suprathreshold audiometry. Techniques and instruments in auditory rehabilitation: hearing aid. FM, cochlear implant.

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 essential to have knowledge of the inner ear anatomy and physiology of hearing and vestibular apparatus. Knowledge of neuroanatomy are recommended.

OUTCOMES

1203 - Degree in Speech Therapy

- 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 the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.
- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.
- Select, implement and facilitate the learning of augmentative communication systems, as well as the design and use of prostheses and technical aids adapted to the physical, psychological and social conditions of the patient.
- Understand and be able to integrate the biological principles (anatomy and physiology), psychological principles (evolutionary development and processes), linguistic principles and pedagogical principles of speech therapy into communication, language, speech, hearing, voice and non-verbal oral communication.
- Know the different methods of hearing screening.
- Know the methods of examination of the vestibular apparatus.
- Know the concept of hearing screening and its application.
- Know the operation of hearing aids and of the cochlear implant.

LEARNING OUTCOMES

Understand the operation of sound transmission in the ear.

- Understanding of the integration of sound in the central and peripheral auditory pathway

- Knowledge of the mechanisms that alter balance

- Understanding pure tone audiometry and when additional tests should be performed to threshold audiometry

- Knowledge of the application of masking, when to perform it and how

- Knowledge of auditory tests to assess language deficits

- Child audiology concept

- Basic knowledge of the objective study of the middle ear

- Concept of objective and subjective tests in audiology

- Usefulness of neurophysiological audiometry; when to perform it, basic concepts and type of tests

- Knowledge of balance exploration tests

- How the process of central integration of sounds and language is explored

- Concept of tinnitus and how it is characterized

- Specific examinations for osseointegrated and middle ear implants as well as cochlear implants

- Knowledge of diagnostic protocols in newborns

- Diagnostic sequence in children

- Knowledge of diagnostic tests for presbycusis

DESCRIPTION OF CONTENTS

1. FUNCTIONAL ANATOMY AND INNER EAR

Souvenir inner ear function and consequences of altering the sound and bioelectrical transmission.

Anatomical physiology of hearing
Anatomical physiology balance
Pathophysiology of hearing
Pathophysiology of balance

2. BASICS FOR EXPLORATION OF INNER EAR

Basic explorations of the inner ear and technologies used.

Basics of acoustics and psychoacoustics
Basics hearing screenings
Exploration of clinical hearing impairment
Otoscopy. Acumetría

Clinical examination of the balance

3. BASIC AUDIOMETRY

Audiometric technical knowledge at various levels of implementation.
Concept of subjective test
Pure-tone audiometry and masking
Supraliminal audiometry
speech audiometry
Test auditory assessment of hearing and language

4. OBJECTIVE TESTS AUDIOLOGICS

Knowledge of the different objective hearing test, concept test objective

impedance
otoacoustic emissions
Auditory evoked brainstem
Auditory steady-state evoked

5. SPECIAL audiological tests

Application of audiology in special conditions.

Assessment of central auditory processing
Other audiological examinations
Exploration of tinnitus
Explorations for indication of hearing devices

6. SPECIFIC EXAMINATION OF THE CHILD AND ADULT

Sequence of diagnostic tests at different ages.

Systematic screening for hearing in newborns
Systematic exploration of hearing in children
Systematic exploration of hearing in the adult

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Other activities	15,00	100
Study and independent work	65,00	0
TOTAL	110,00	

TEACHING METHODOLOGY

Theoretical classes: presentations by the teacher with audiovisual support, explanations of the contents and discussion in class. 30 face-to-face hours.

Practical classes: clinical sessions held in university hospitals, case studies, exploration techniques and participation in practical activities under supervision. 15 face-to-face hours.

Study of the student for the preparation and realization of the evaluation tests. 35 hours.

EVALUATION

Multiple choice test of 25 questions with four possible answers. There will only be one correct answer Wrong answers do not count.

Attendance at the hospital practical classes is mandatory and essential to take the theoretical exam.

The subject is approved with a grade equal to or greater than 5.

In the event of fraudulent practices, the Action Protocol for fraudulent practices at the University of Valencia will be applied (ACGUV 123/2020):
https://www.uv.es/sgeneral/Protocols/C83.pdf

REFERENCES

Basic

- Apuntes publicados en el aula virtual.

- Morera, C. y Marco, J. (2006). Lecciones de Otorrinolaringología aplicada. Barcelona. Ed Glosa.
- Salesa, Perelló y Bonavida (2005). Tratado de Audiología. Barcelona: Elsevier-Masson

Additional

- Utilización del aula virtual para intercambio de información y presentación de los informes.
- Manrique Rodríguez, M., Marco Algarra, J. (2014). AUDIOLOGÍA. Ponencia Oficialde la Sociedad Espanola de Otorrinolaringología y Patología Cérvico-Facial EORL PCF Sociedad Espanola de Otorrinolaringología y Patología Cérvico-Facial Edición a cargo de CYAN, Proyectos Editoriales, S.A. (EN LINEA)
- Angulo Jerez, A., Rosselló Martinelli, L., Harguindey Antolí-Candela, A., Yuste García, ,M., Feijoo Frazier, S., Brocal Fernández, F. y Salobral Peña., S. (2017).
Audiología. Teoría y Práctica. Ediciones Egea