

26828 - Audiometry and Auditory Prostheses

Syllabus Information

Academic Year: 2020/21

Subject: 26828 - Audiometry and Auditory Prostheses

Faculty / School: 100 - Facultad de Ciencias

Degree: 297 - Degree in Optics and Optometry

ECTS: 6.0

Year: 3

Semester: Second semester

Subject Type: Optional

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning system that has been designed for this subject is based in the following points:

The matter is structured in 30 one-hour sessions (3ECTS) given in large groups, and 30 one-hour sessions given in small groups.

Additionally the teachings of this area will include the non-presential load of work corresponding to the total of ECTS credits of the subject (90hours aproximately).

The teaching sessions content will be based in the teachers recommended bibliography, which will be adapted to the student's knowledge level.

4.2.Learning tasks

Classroom teaching. Large group classes

Classroom teaching. Short group classes

- 1: Otoscopy, videotoscopy
- 2: impedanciometry
- 3: Earmold impression
- 4: Ton eliminat and supraliminal Audiometry
- 5: Vocal Audiometry
- 6: Hearing Aids Types, Hearing Aids selection in order to hearingloss and hearing Aids accessories
- 7: Free field audiometry
- 8: Hearing Aids and solutions for children
- 9: Earmolds modifications . Daily care and troubleshooting common hearing aids problema..

4.3.Syllabus

Class 1: Auditory sense

Class 2: Sound. Soundwaves

Class 3: Volume, tone and timbre of the sound

Class 4: Reflection, refraction, and diffraction of sound

Class 5: Interference, Doppler effect, resonance ,distortion

Class 6: Audiométricunit :the octave

Class 7: The decibel

Class 8: Audiograms

Class 9: The Pinna

Class 10.The External Auditory Cannal

Class 11: The Eardrum

Class 12: Outer Ear Patology

Class 13: Middle Ear Anatomy

Class 14: The mastoid. Eustachean Tube.

Class 15: Middle Ear Patology.

Class 16: The inner Ear. The semicircular Canals.

Class 17: The Cochlea.

Class 18: Cochlear duct: The Corti organ

Class 19: The outer hair cells

Class 20: The inner hair cells and transduction

Class 21: Auditory Pathway Brainsistem.. Brodmann Areas and Olivocochlear Rasmussen SYSTEM.

Class 22: Acoustic otoemissions, Auditory Brain Responses and **Stady-state multifrequency** auditory evoked **potentials**

Class 23: Tone luminal Audiometry

Class24: Enmascaramiento audiométrico

Class 25: Vocal Audiometry, Impedanciometry

Class26: Tinnitus

Class 27: Hearing aids 1

Class 28: Hearing Aids 2

Class 29: Cochlear Implants

Class 30: Children Hearingloss

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to <https://ciencias.unizar.es/>.

4.5.Bibliography and recommended resources

- BB** Gil-Carcedo García, Luis María. Otología / Gil-Carcedo García, Luis María, Vallejo Valdezate, Luis Ángel, Gil-Carcece 3ª ed. Buenos Aires ; Madrid [etc.] : Médica Panamericana, D.L. 2011
- BB** Portmann, Michel. Audiometría clínica : con atlas de gráficas audiométricas / por Michel Portmann, Claudine Portmann castellana del doctor José María Torres de Gassó . - 3a ed. rev. y puesta al día Barcelona : Toray-Masson, 1979
- BB** Salesa Batlle, Enrique. Tratado de audiología / Enrique Salesa Batlle, Enrique Perelló Scherdel, Alfredo Bonavida E Barcelona [etc.] : Masson, D. L. 2005
- BB** Salesa Batlle, Enrique. Tratado de audiología / Enrique Salesa Batlle, Enrique Perelló Scherdel, Alfredo Bonavida E Barcelona [etc.] : Masson, 2013
- BB** Sebastián, Gonzalo de. Audiología práctica / Gonzalo de Sebastián, con la colaboración de José J. Badaracco, David Madrid [etc.] : Médica Panamericana, 1999