

## SCIENZE AUDIOPROTESICHE III (APU022)

### 1. language

Italian

### 2. course contents

Coordinator: Prof. CONTI GUIDO

Year Course: 3rd year

Semester: 1st semester

UFC: 6

Modules and lecturers:

- AUDIOLOGIA INFANTILE (APU085) - 2 cfu - ssd MED/32

Prof. Guido Conti

- AUDIOMETRIA 3 (APU087) - 2 cfu - ssd MED/50

Prof. Bianca Maria Martina

- AUDIOPROTESI 3 (APU086) - 2 cfu - ssd MED/50

Prof. Bruno Lucarelli

### 3. BIBLIOGRAPHY

#### Mandatory readings

- MAURIZI M. *“Clinica otorinolaringoiatrica. Basi anatomo-funzionali, patologiche e cliniche delle grandi sindromi e delle malattie”*. 3° edizione, Ed. Piccin, 2017. Chapters 13, 14, 15 (pages 258 - 341).
- RINALDI P. Tomasuolo E., Resca A. *La sordità infantile. Nuove prospettive d'intervento*- Ed. Erickson, 2018, chapter 5
- PALUDETTI G. *Ipoacusie infantili*- Ed. Omega, 2011- Chapter 16 "Audiometria Comportamentale"
- PROSSER S, MARTINI A. *“Argomenti di audiologia”*. Ed. Omega, Torino, 2011. Chapters 1.3 (pages 54-90), 1.6 (pages 303 - 316).

#### Suggested readings

- KATZ J. *Handbook of Clinical Audiology*. 7<sup>th</sup> edition. Wolters Kluwer Ed. 2015.
  - o Chapter 23. *Newborn Hearing Screening*. Pages 437–458.
  - o Chapter 23. *Assessment of Hearing Loss in Children*. Pages 45 –476.
  - o Chapter 34. *Hearing Loss in the Elderly. A New Look to an Old Problem*. Pages 631–646.
  - o Chapter 40. *Hearing Aid Fitting for Children: Selection, Fitting, Verification, and Validation*. Pages 759-776

Teaching matter by lecturers

## 4. LEARNING OBJECTIVES

### **Knowledge and understanding (Dublino 1):**

*Student must acquire knowledge and understanding epidemiology, pathogenesis, pathophysiology, risk factors, prevention/diagnosis/treatment tools with regard to pathologies/dysfunction of hearing. Moreover, the Student has to be able to understand and explain results of the main tests of hearing function, mostly looking at choice and management of the habilitative intervention by hearing aids.*

### **Applying knowledge and understanding (Dublino 2):**

*Student must be able to understand and integrate data which come from otorhinolaryngological and audiological evaluation. Moreover, the Student must demonstrate to be able to explain evidence of audiological tests in the context of single clinical cases.*

### **Making judgements (Dublino 3):**

*Student has to be able to select the most appropriate diagnostic procedures in each single patient and to critically evaluate diagnostic results.*

### **Communication skills (Dublino 4):**

*Student must be able to clearly communicate with health operators as well as with patients by means of an appropriate and clear technical/scientific language.*

### **Learning skills (Dublino 5):**

*Student must be able to update and enlarge his knowledge and skills about several topics included into the program. Student has to acquire autonomy and competence to select usefull sources (scientific papers, textbooks, workshops, conferences . . . ) for learning.*

## 5. prerequisites

- *Learning and knowledge of subjects which were aquired during the 2nd and 3rd years are needed, with regard to clinical and diagnostic Audiology as well as to preliminary elements of hearing aids sciences.*
- *Knowledge of basic elements of Acoustic Physics and Psychoacoustics.*
- *Knowledge of basic elements of Anatomy, Physiology of the Auditory System.*
- *Knowledge of general technical, technological/electroacoustical elements wich are propaedeutic to hearing rehabilitation in weak Patients (children, elederly).*

## 6. TEACHING METHODS

*Teaching is provided in the classroom by means of audiovisual media and, if necessary, with the support of Institutional teaching platforms (BlackBoard).*

- **Knowledge and understanding (Dublino 1):**  
*Teaching methods and covered subjects are aimed to aquire knowledge and understanding of updated and complete notions, which are based on the main scientific evidences.*
- **Applying knowledge and understanding (Dublino 2):**  
*Teaching methods allow Students to apply knowledge and understanding by means of correlation between teorical teaching and practical apprenticeship and with analysis of clinical cases.*
- **Making judgements (Dublino 3):**  
*The attitude of Sudents to make judgements is promoted by interaction with teachers, mainly when evaluating the relationship between theory and practical solution in specific pathological entitiy and single clinical case.*

- **Communication skills (Dublino 4):**

*The development of communication skills is promoted by involving Students in discussion on teaching subjects.*

- **Learning skills (Dublino 5):**

*Teaching methods aim to provide Student with learning skills at a level of autonomy in selecting adequate sources for increasing and updating his knowledge.*

## 7. OTHER INFORMATIONS

*Teachers receive Students in the morning on agreed dates*

## 8. METHODS FOR VERIFYING LEARNING AND FOR EVALUATION

*Proficiency exam is based on oral examination. This latter is aimed to evaluate and quantify with a vote the attainment of learning skills. In the case of verified Student's disability*

*L'esame di profitto prevede una prova orale finalizzata a valutare e a quantificare con un voto il conseguimento degli obiettivi di apprendimento. Per i casi di accertata disabilità dello Studente vengono applicate le disposizioni previste dalla normativa vigente (es. concedere tempi distesi nella formulazione delle risposte). Con il superamento dell'esame lo Studente acquisisce i CFU attribuiti all'attività formativa in oggetto.*

*L'accertamento del profitto dello Studente determina una votazione unica, sulla base di una valutazione collegiale, contestuale e complessiva delle conoscenze e delle capacità acquisite dallo Studente, da parte e con pari dignità ed autonomia di giudizio dei Docenti referenti per i singoli Moduli.*

*La determinazione del voto, espresso in trentesimi (/30), tiene conto dei seguenti elementi: logica seguita dallo Studente nella risoluzione del quesito; correttezza della procedura individuata per la soluzione del quesito; adeguatezza della soluzione proposta in relazione alle competenze che lo Studente si presuppone abbia acquisito alla fine del corso; impiego di un linguaggio appropriato ed adeguato.*

*Il punteggio massimo (30/30 e lode) viene assegnato qualora siano pienamente soddisfatti tutti gli elementi suddetti.*

*Methods for verifying and evaluating learning may be declined in the following way:*

**Knowledge and understanding (Dublino 1):**

*Knowledge and understanding are verified by means of question and discussion on teorical and practical topics of the single course contents. The evaluation considers also the ability to connect concepts which were acquired in the several contents.*

**Applying knowledge and understanding (Dublino 2):**

*Methods for verifying and evaluating learning in applying Student's knowledge and understanding are mainly based on evaluation of clinical models and cases, to allow Student to translate into practical/applied context the elements (clinical, diagnostic, rehabilitative) which were acquired through the course contents.*

**Making judgements (Dublino 3):**

*Student's autonomy in making judgements is evaluated in terms of ability to integrate elements of the disciplines to gain a final judgement and a comprehensive conclusion with regard to the analysis of single clinical cases and to the correct choice of the treatment.*

**Communication skills (Dublino 4):**

*Student's language during oral exam is evaluated in term of clearness and completeness of contents and with regard to logical integration of concepts. The appropriateness of technical and scientific terminology is also considered.*

**Learning skills (Dublino 5):**

*Modality for verifying learning skills is mainly based on questions which allow Student to make logical inferences and associations and to develop new concepts based on the knowledge acquired*

## 9. program

**Modulo 1 APU 085 – Audiologia Infantile/Paediatric Audiology (MED/32), 2 CFU: prof. Guido Conti**

- *Hearing loss in childhood and its clinical, health and social importance*
- *Classification of childhood hearing loss*
- *Clinical and pathophysiological features of hearing loss and dysfunctions in children*
- *Specificity of habilitative treatment of hearing dysfunction in children*
- *Methods, strategies and programs for early diagnosis and treatment of hearing loss in children*
- *Weak audiological Patients in adult and old age. Presbycusis.*

**Modulo 2 APU087 - Audiometria Infantile 2 (MED/50), 2 CFU: prof.ssa Martina Bianca Maria**

- *Speech Audiometry*
- *Speech Audiometry and central dysfunction*
- *Behavioural Audiometry – Principles of audiological evaluation in children*
  - o *Behavioural Audiometry in newborn*
  - o *“Semi-Objective” Audiometry*
  - o *B.O.A.*
  - o *V.R.A. e C.O.R.*
  - o *Play Audiometry*
  - o *Speech Audiometry in children*
  - o *Hearing Perception Tests*
  - o *LING SIX SOUND TEST*
  - o *ASSE*
  - o *PCAP*
  - o *TIPI 1 e TIPI 2*
  - o *Questionnaires*

**Modulo 3 APU086 – Audioprotesi 3 (MED/50), 2 CFU: prof. Bruno Lucarelli**

*Following topics are proposed with main regard to childhood:*

- *Rules and Laws, Competence and Ethics. The role of the Technician in Audioprosthesis in childhood hearing loss*
- *Hearing loss: sensory dysfunction and its clinical effects*

- *Methods and program for habilitative treatment of hearing loss. A multi-disciplinary approach*
- *Guidelines for hearing aids prescription, selection, fitting and counselling. From diagnosis of hearing loss to evaluation of benefit*

*Following topics are covered in detail:*

- *Specificity of hearing habilitation in childhood:*
  - o *the role of counselling*
  - o *selection, fitting, adaptation of hearing aids*
  - o *evaluation of benefit*
- *Specificity of hearing habilitation in the elderly. The complexity of hearing dysfunction in Presbycusis. Age related hearing loss and Cognitive impairment. Theoretical and practical topics*