



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata		
ACADEMIC YEAR	2020/2021		
BACHELOR'S DEGREE (BSC)	AUDIOPROTHESIC TECHNIQUES		
INTEGRATED COURSE	INTERDISCIPLINARY SCIENCES - INTEGRATED COURSE		
CODE	06354		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	MED/36, MED/27		
HEAD PROFESSOR(S)	GRASSO GIOVANNI	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)	GRASSO GIOVANNI	Professore Associato	Univ. di PALERMO
	GAGLIARDO CESARE	Ricercatore a tempo determinato	Univ. di PALERMO
CREDITS	6		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	3		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	GAGLIARDO CESARE Wednesday 10:00 - 12:00 Sezione di Scienze Radiologiche - Dipartimento di Biomedicina, Neuroscienze e Diagnostica Avanzata.		
	GRASSO GIOVANNI Monday 14:00 - 16:00 Clinica Neurochirurgica		

PREREQUISITES	The student must have knowledge in the field of physics, anatomy of the central nervous system and of the auditory system and the related diseases in order to understand the contents and the learning objectives of the course.
LEARNING OUTCOMES	<p>Knowledge and ability to understand: the student will demonstrate knowledge and understanding skills regarding conventional radiology, computed tomography and magnetic resonance techniques. This knowledge will be acquired through lectures and practical sessions.</p> <p>Ability to apply knowledge and understanding: At the end of the course the student will be able to apply knowledge in practice, with understanding abilities and able to prove his problem solving skills regarding conventional radiology, computed tomography and magnetic resonance techniques within the oto-neuro-radiology field, in order to achieve excellent technical abilities suitable in light of the complexity of the care and the health of the population.</p> <p>Independent reasoning: At the end of the course the student will be able to integrate knowledge and manage complexity, as well as to formulate assessments on the basis of limited or incomplete information, including considerations on the social and ethical responsibilities related to the application of his/her knowledge, and assessments regarding the applications of conventional radiology, computed tomography and magnetic resonance techniques within the oto-neuro-radiology field.</p> <p>Communication skills: At the end of the course the student will know how to communicate in a clear and unequivocal way his / her conclusions, as well as the knowledge and underlying rationale, to specialists and non-specialist interlocutors regarding the applications of conventional radiology, computed tomography and magnetic resonance within the oto-neuro-radiology field. These skills will be acquired and verified through meetings with patients, tutors and assistants, promoting active involvement of students.</p> <p>Learning skills: At the end of the course the student will have developed those learning skills that allow to continue to study in an autonomous way. These skills will be developed through the percentage of time dedicated to autonomous learning, encouraging reflection and elaboration activities about the issues addressed within the course about the application of conventional radiology, computed tomography and magnetic resonance. Evaluation of learning skills can be carried out through the elaboration of general reports or presentations with the help of the teaching staff.</p>
ASSESSMENT METHODS	<p>The learning verification tests will take place through an oral interview. Oral test will consist of an interview, aimed at ensuring the possession of the skills and knowledge of the topics covered during the course.</p> <p>The student will have to answer to at least two / three oral questions, about the topics of the study programme, with reference to the suggested books.</p> <p>The evaluation is expressed in thirtieths with the following method:</p> <p>30-30 and merit: Excellent knowledge of topics, excellent language skills, good analytical ability, the student is able to apply knowledge to solve the proposed problems.</p> <p>26-29: Good knowledge of topics, good language skills, the student is able to apply the knowledge to solve the proposed problems.</p> <p>24-25: Basic knowledge of the main topics, discrete language skills with limited ability to autonomously apply knowledge to the solution of the proposed problems.</p> <p>21-23: The student is not fully mastered in the main topics of the course but possesses knowledge, satisfactory language property, poor ability to apply the acquired knowledge independently.</p> <p>18-20: minimal basic knowledge of the main topics of the course and relative technical language, very little or no ability to independently apply the acquired knowledge.</p> <p>Insufficient: the student does not have an acceptable knowledge of the contents of the topics covered in the course.</p>
TEACHING METHODS	Lessons at BiND (III floor).

MODULE IMAGE DIAGNOSTICS

Prof. CESARE GAGLIARDO

SUGGESTED BIBLIOGRAPHY

L'orecchio - Diagnostica per immagini (Autori: Mario Di Egidio; Editore: Verduci; volume unico; Edizione: 2008; Lingua: Italiano; ISBN: 9788876207792).

AMBIT	10351-Scienze interdisciplinari cliniche
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	30

EDUCATIONAL OBJECTIVES OF THE MODULE

The educational objectives of the module are aimed at providing the necessary knowledge regarding the oto-neuro-radiology field and more generally about neuroradiology of modern diagnostic equipment used in the audioprosthesis field (with particular reference to: Rx, CT, MRI) and the rational for their use in the audioprosthesis field (following objective criteria and evaluating the best cost-benefit both patient and health resources, in compliance with the modern protocols and actual clinical knowledge).

Students must also demonstrate knowledge of diagnostic algorithms in the pathologies of interest in the audioprosthesis field.

SYLLABUS

Hrs	Frontal teaching
3	General concepts of atomic physics
2	Radiation physics
3	Interaction of radiation with matter
3	Radiobiology
8	X-ray equipment and image formation in ultrasound, conventional radiology, multislice CT, MR.
2	Introduction to methods of Diagnostic Imaging of the Central Nervous System.
2	Brain and acoustic and vestibular neural pathways.
1	Imaging protocols in oto-neuro-radiology.
2	Neuroradiology of conductive hearing loss.
2	Neuroradiology of acute sensorineural hearing loss.
1	Neuroradiology of the diseases of the posterior cranial fossa.
1	Cochlear implants: pre- and post-operative neuroradiology.

MODULE NEUROSURGERY

Prof. GIOVANNI GRASSO

SUGGESTED BIBLIOGRAPHY

Articoli scientifici internazionali
International scientific papers

AMBIT	10351-Scienze interdisciplinari cliniche
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	30

EDUCATIONAL OBJECTIVES OF THE MODULE

Students must acquire the knowledge that will be of benefit to correctly interpret the signs and neurological symptoms related to a framework of pathology. They will have to learn concepts that will allow to frame the syndromes related to the presence of the treated neurosurgical pathologies. The course will allow, in addition, for each group of treated diseases, to acquire specific information on the epidemiological, clinical, pathophysiological, prognostic and therapeutic aspects.

SYLLABUS

Hrs	Frontal teaching
10	Primary glial tumors
5	Extra-axial brain tumors
5	Cerebral aneurysms and AVMs
2	Cavernous angiomas
2	Hydrocephalus and other intracranial malformations
5	Diagnostic criteria and multimodal therapy
1	Multimodal therapy and future perspectives