UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata		
ACADEMIC YEAR	2019/2020		
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	

DOCENTE: Prof. GIOVANNI GRASSO

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	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. 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. 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. 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. 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.
ASSESSMENT METHODS	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. 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. The evaluation is expressed in thirtieths with the following method: 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. 26-29: Good knowledge of topics, good language skills, the student is able to apply the knowledge to solve the proposed problems. 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. 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. 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. Insufficient: the student does not have an acceptable knowledge of the contents of the topics covered in the course.
TEACHING METHODS	Lessons at BiND (III floor).

<table>
<tr><td colspan="2" align="center">MODULE
IMAGE DIAGNOSTICS

<i>Prof. CESARE GAGLIARDO</i></td></tr>
<tr><td colspan="2">SUGGESTED BIBLIOGRAPHY</td></tr>
<tr><td colspan="2">L'orecchio - Diagnostica per immagini (Autori: Mario Di Egidio; Editore: Verduci; volume unico; Edizione: 2008; Lingua: Italiano; ISBN: 9788876207792).</td></tr>
<tr><td>AMBIT</td><td>10351-Scienze interdisciplinari cliniche</td></tr>
<tr><td>INDIVIDUAL STUDY (Hrs)</td><td>45</td></tr>
<tr><td>COURSE ACTIVITY (Hrs)</td><td>30</td></tr>
<tr><td colspan="2">EDUCATIONAL OBJECTIVES OF THE MODULE</td></tr>
<tr><td colspan="2">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 audioprosthetic field (with particular reference to: Rx, CT, MRI) and the rational for their use in the audioprosthetic 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 audioprosthetic field.</td></tr>
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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	Cochelar implants: pre- and post-operative neuroradiology.

<table>
<tr><td colspan="2" align="center">MODULE
NEUROSURGERY

<i>Prof. GIOVANNI GRASSO</i></td></tr>
<tr><td colspan="2">SUGGESTED BIBLIOGRAPHY</td></tr>
<tr><td colspan="2">Lavori scientifici che verranno distribuiti.</td></tr>
<tr><td>AMBIT</td><td>10351-Scienze interdisciplinari cliniche</td></tr>
<tr><td>INDIVIDUAL STUDY (Hrs)</td><td>45</td></tr>
<tr><td>COURSE ACTIVITY (Hrs)</td><td>30</td></tr>
<tr><td colspan="2">EDUCATIONAL OBJECTIVES OF THE MODULE</td></tr>
<tr><td colspan="2">Students must acquire the knowledge that will be useful for correctly interpreting the neurological signs and symptoms that are part of a pathology scenario; they will have to learn notions that will allow to frame the syndromic pictures linked to the presence of the neurosurgical pathologies treated. The course will also allow specific information on the epidemiological, clinical, physiopathological, prognostic and therapeutic aspects of each group of diseases treated.</td></tr>
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SYLLABUS

Hrs	Frontal teaching
3	Intracranial hypertension and cerebral edema
3	Brain tumors of the glial series
3	Extra-axial tumors: meningiomas and neurinomas
3	Traumatic brain injury
3	Brain hemorrhages
3	Neurovascular conflicts
3	Otitis complications of neurosurgical interest