UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Medicina di Precisione in area Medica, Chirurgica e Critica
ACADEMIC YEAR	2023/2024
MASTER'S DEGREE (MSC)	DENTISTRY
SUBJECT	IMAGE DIAGNOSTICS AND RADIOTHERAPY
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50448-Discipline odontoiatriche e radiologiche
CODE	57005
SCIENTIFIC SECTOR(S)	MED/36
HEAD PROFESSOR(S)	LO CASTO ANTONIO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	90
COURSE ACTIVITY (Hrs)	60
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	3
TERM (SEMESTER)	1° semester
ATTENDANCE	Mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**LO CASTO ANTONIO** Monday 9:00 11:00 I piano, Sezione Scienze radiologiche, DIBIMED

PREREQUISITES	Anatomy and physiology of the maxillofacial district. Physics.
LEARNING OUTCOMES	Knowledge and comprehension ability. At the end of the course the student should show knowledge and comprehension for what concern the applications of imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws. This knowledge will be acquired by means of frontal and theorical-practical lectures, and will be evaluated by means of classroom discussion and during practice and examinations.
	Ability to apply knowledge and comprehension. At the end of the course the student should be able to apply knowledge, should have comprehension and skills to solve problems concerning applications of imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws, in order to acquire optimal capacity of clinical integration of clinical information from radiologic reports and images, aimed to the complexity of care and people healthcare.
	Judgement autonomy. At the end of the course the student should be able to integrate knowledges and manage the complexity, to express judgements on the basis of limited or missing informations, including to reflect on the social and ethical responsabilities related to the application of his/her knowledges and judgements for what concern imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws.
	Communication abilities. At the end of the course the student should be able to communicate clearly and without ambiguities his/her conclusions, the underlying knowledges and rationale to qualified and unqualified interlocutors, for what concern the application of imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws.
	These skills will be acquired and evaluated by means of classroom discussion and during
	practice, fostering active participation of students.
	Learning ability. At the end of the course the student should be have the learning abilities, allowing to continue to study mainly in an autonomous way. These skills should be developed during time deserved to autonumus study and self learning, fostering reflection and elaboration activities on topics dealt during the course for what concern the applications of imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws.
	The evaluation would be made discussing in the classroom and during practice.
ASSESSMENT METHODS	TYPE OF ASSESSMENT Oral assessment. This assessment is used to evaluate the student's knowledge and understanding of the programme content, independent judgement, ability to apply acquired knowledge and specific technical terminology. The student will have to answer a minimum of four questions posed orally which will focus on the subjects covered in the programme, making reference to suggested texts.
	ASSESSMENT CRITERIA The assessment grades are given as numerical scores awarded out of a possible 30 points, and as follows:
	- 30 - 30 cum laude - ECTS grades: Excellent (A – A+) Result: Excellent knowledge of the taught subject matter. The student demonstrates good analytic-synthetic capabilities and is able to apply knowledge to resolve highly complex problems.
	- 27 – 29 – ECTS grades: Very good (B) Result: Very good knowledge of the taught subject matter and good use of language. The student demonstrates analytic-synthetic capabilities and is able to apply knowledge to resolve some complex problems.
	- 24 – 26 – ECTS grades: Good (C) Result: Good knowledge of the taught subject matter and good use of language. The student is able to apply knowledge to resolve problems of medium complexity.
	- 21 – 23 – ECTS grades: Satisfactory (D) Result: Reasonable knowledge of the taught subject matter, in some cases limited to the main topics. Acceptable use of technical language and capacity to apply acquired knowledge independently.
	- 18 – 20 – ECTS grades: Sufficient (E) Result: Minimal knowledge of the taught subject matter, often limited to the main topics. Modest use of technical language and some capacity to apply acquired knowledge independently.
	- 1 – 17 – ECTS grades: Fail (F) Result: Unacceptable knowledge of the taught subject matter. Little or no use of technical language and capacity to apply acquired knowledge independently. Exam failed.
EDUCATIONAL OBJECTIVES	To supply the student the bases to understand the methodology of application of imaging techniques in oral and maxillofacial district, health risks related to radiations used to extract images from the human body and radiation protection laws, starting from preliminary informations on radiation physics and radiologic image formation principles, on radiologic devices technology, radiobiology and radiation protection, to finally understand the clinical informations from radiologic reports and images. Ability to understand the application methodology of

	imaging techniques in oral and maxillofacial district and health risks related to radiations used to extract images from the human body and radiation protection laws. Ability to understand the clinical informations from radiologic reports and images.
TEACHING METHODS	Frontal lectures
SUGGESTED BIBLIOGRAPHY	CARDINALE AE, DI GUGLIELMO L: "Radiologia stomatologica maxillo-facciale", Guido Gnocchi Editore, Napoli,1994 (ISBN: 978-8879470698). NARDI C, NARDI F, COLAGRANDE S: "Imaging dentale e oro-maxillo-facciale", Verduci Editore, Roma, 2013 (ISBN: 978-88-7620-888-1). MALLYA SM, LAM EWN: "White. Pharoah's radiologia odontoiatrica, principi ed interpretazione", Antonio Delfino Editore, Roma, 2021 (ISBN: 8872876516).

SYLLABUS

Hrs	Frontal teaching
2	History and evolution of oral and maxillofacial radiology
2	Radiation physics: general informations
2	Principles and techniques of analogic and digital image formation
2	Conventional radiologic (plane and contrastostographic) techniques
2	Principles of fan and cone beam volumetric computed tomography
1	Ultrasound principles
2	Magnetic resonance principles
1	Nuclear medicine principles
4	Radiobiology and Radiation protection
2	Intraoral radiography: paralleling technique, bisecting angle technique, bitewing technique, occlusal techniques
2	Panoramic radiography
2	Radiographic anatomy of teeth and maxillofacial structures
1	Radiologic study techniques of the skull and sinuses
1	Head teleradiography and cephalometry informations
1	Swallowing radiologic study
2	Congenital anomalies of teeth and face
2	Dental caries
2	Parodontal disease
4	Osteomyelitis and osteonecrosis of the jaws
2	Facial osteodysplasia
2	Odontogenic and non odontogenic cystic lesions of the jaws
4	Odontogenic and non odontogenic tumors
2	Dental and maxillofacial trauma
2	Imaging of temporomandibular joint
2	Imaging of paranasal sinuses
2	Imaging of salivary glands
2	Parapharyngeal space diseases
2	Imaging in implantology
1	Imaging of the orbit
2	Oncologic radiotherapy principles (with special reference to maxillofacial district)