



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Medicina di Precisione in area Medica, Chirurgica e Critica		
ACADEMIC YEAR	2022/2023		
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		

DOCENTE: Prof. ANTONIO LO CASTO

PREREQUISITES	Anatomy and physiology of the maxillofacial district. Physics.
LEARNING OUTCOMES	<p>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 theoretical-practical lectures, and will be evaluated by means of classroom discussion and during practice and examinations.</p> <p>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.</p> <p>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 responsibilities 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.</p> <p>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.</p> <p>These skills will be acquired and evaluated by means of classroom discussion and during practice, fostering active participation of students.</p> <p>Learning ability. At the end of the course the student should be able to have the learning abilities, allowing to continue to study mainly in an autonomous way. These skills should be developed during time deserved to autonomous 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.</p> <p>The evaluation would be made discussing in the classroom and during practice.</p>
ASSESSMENT METHODS	<p>Oral examination. The candidate should answer to at least two/three oral questions on all the program topics, also referring to suggested books. Final exam is aimed to evaluate if the student has knowledge and comprehension of topics, interpretation skill and judgement autonomy on practical cases. The exam is scored as satisfactory if the student demonstrates knowledge and comprehension of the topics in general terms and has minimum application skills in order to solve practical cases; he should anyway be able to communicate his/her knowledge to the examiner. Under this threshold the exam is scored unacceptable. More and more the candidate is able to interact with the examiner with speaking ability and his/her knowledge is detailed in the matter under evaluation the score will increase. The marks are out of thirty.</p>
EDUCATIONAL OBJECTIVES	<p>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.</p>
TEACHING METHODS	Frontal lectures
SUGGESTED BIBLIOGRAPHY	<p>CARDINALE AE, DI GUGLIELMO L: "Radiologia stomatologica maxillo-facciale", Guido Gnocchi Editore, Napoli, 1994 (ISBN: 978-8879470698).</p> <p>NARDI C, NARDI F, COLAGRANDE S: "Imaging dentale e oro-maxillo-facciale", Verduci Editore, Roma, 2013 (ISBN: 978-88-7620-888-1).</p> <p>MALLYA SM, LAM EWN: "White. Pharoah's radiologia odontoiatrica, principi ed interpretazione", Antonio Delfino Editore, Roma, 2021 (ISBN: 8872876516).</p>

SYLLABUS

Hrs	Frontal teaching
2	History and evolution of oral and maxillofacial radiology

SYLLABUS

Hrs	Frontal teaching
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)