



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Medicina di Precisione in area Medica, Chirurgica e Critica		
ACADEMIC YEAR	2023/2024		
MASTER'S DEGREE (MSC)	DENTISTRY		
INTEGRATED COURSE	CARIOLOGY, CONSERVATIVE DENTISTRY AND ENDODONTICS - INTEGRATED COURSE		
CODE	17145		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	MED/28		
HEAD PROFESSOR(S)	GALLINA GIUSEPPE	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	GALLINA GIUSEPPE	Professore Ordinario	Univ. di PALERMO
	CUMBO ENZO MARIA GIUSEPPE	Ricercatore	Univ. di PALERMO
CREDITS	7		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	4		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	CUMBO ENZO MARIA GIUSEPPE Tuesday 09:00 11:00 Scienze Stomatologiche1° piano GALLINA GIUSEPPE Tuesday 10:00 12:00 Uffici di Presidenza del CdS di Medicina e Chirurgia		

PREREQUISITES	<p>Preknowledge necessary to achieve the objectives of the Integrated Programme are:</p> <ul style="list-style-type: none"> - The knowledge of embryology, anatomy and physiology of the maxillofacial structures and, in particular, oral cavity, teeth and stomatognathic system; - Knowledge of the ecosystem in oral cavity and specifically the micro-organisms of the dental plaque and their cariogenic role; - The knowledge of the mechanisms of inflammation (Angiophlogosis and Istoflogosis) and the local and systemic immune response; - Knowledge of the fundamentals of inorganic chemistry: chemical bonds, solutions, oxidation-reduction, acids, bases, inorganic and biomolecular chemistry. - Knowledge of the physical and chemical characteristics, product and procedures for the use and conservation, in line with the directives and international standards of dental materials used in endodontics and restorative dentistry; - Knowledge of the fundamentals of mechanics, dynamics, thermodynamics, rheology, optics, electro physics, radiation physics, principles of radiation protection and radiographic technique; - Knowledge of the principles of prevention of infectious diseases and cross infection, disinfection and sterilization of instruments; - Knowledge of the principles of Pharmacology and Anaesthesiology.
LEARNING OUTCOMES	<p>For the achievement of the general educational skills, at the end of the course the student must have acquired the knowledge of anatomy, etiopathogenesis, instruments and procedures to diagnose, implement prevention protocols, set and maintain the conservative treatment plans, both in patients' "normal" that "at risk" of diseases of hard tissues of the tooth that aim to restore morphological, functional and aesthetic, and respecting the health of the periodontal tissues and the functionality of the stomatognathic system. Similarly, the student must know, diagnose and prevent diseases of the dental pulp. Achieve adequate autonomy in setting the diagnosis and related treatment plan. Being able to critically interact with the patient, his family and with dentists and medical specialists working in private practice regime and in the National Health Service.</p>
ASSESSMENT METHODS	<p>Oral Examination, unique and contemporary, for all modules of the Integrated Course, according to the calendar. Thirty Rating.</p> <p>At least two questions will be asked for each module to assess the acquired knowledge, the elaboration and synthesis skills, and the possession of adequate speaking skills. In case of serious shortcomings on basic subjects of a single module the examination may be interrupted. The candidate receives an assessment out of thirty as final grade (the pass mark is 18\30).</p> <p>Assessment criteria are:</p> <ul style="list-style-type: none"> - Excellent knowledge of teaching contents; the candidate demonstrates high analytical-synthetic capacity and is able to apply knowledge in the complex clinical solution (Score: 30, 30L; Rating: Excellent) - Good-Excellent knowledge of teaching content and appropriate language property use; the student demonstrates analytical-synthetic ability and is able to apply the knowledge to solve clinical questions, (Score 27-29; Rating: Very Good) - Good knowledge of teaching content and language use; the student is able to apply the knowledge to solve clinical questions of average complexity (Score 24-26; Rating: good) - Satisfactory knowledge of the teaching content, in certain limited cases to the main topics; acceptable ability to use the discipline - specific language and to apply the acquired knowledge autonomously (Score: 21-23; Rating: satisfactory) - Minimum knowledge of the teaching content limited to the main topics; modest ability to use the discipline - specific language and to apply the acquired knowledge autonomously (Score 18-20; Rating: sufficient) - The candidate does not have an acceptable knowledge of the main teaching content and is not able to apply the acquired knowledge independently; insufficient or no ability to use the discipline-specific language (Score: < 18 - Rating: failed - not approved).
TEACHING METHODS	<p>Lectures, Practical training in simulator room and in the wards</p>

MODULE ENDODONTICS I

Prof. ENZO MARIA GIUSEPPE CUMBO

SUGGESTED BIBLIOGRAPHY

- Appunti delle Lezioni, Articoli scientifici e Monografie forniti dai Docenti.
- Pagavino G., Pace R.: Volume 1: La lesione endodontica. Ed. SEE – Firenze, 2004
- Pagavino G., Pace R., Giachetti L. Volume 2: Urgenze in endodonzia. SEE – Firenze, 2004
- Somma F., Endodonzia, principi di base, procedure operative e tecniche. Masson - Milano, 2006

AMBIT	50448-Discipline odontoiatriche e radiologiche
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	30

EDUCATIONAL OBJECTIVES OF THE MODULE

The aim of the module is to acquire knowledge of the etiopathogenesis and clinic of pulpal and periradicular diseases of endodontic origin. Etiopathogenesis and clinic of endodontic lesions. Evaluation of the objectives and main operative techniques of orthograde endodontic treatment and retreatment. At the end of the course, the student will have to know, diagnose, prevent pathologies of the pulp and periradicular tissues, of endodontic origin, and instrument and treat the root canal system.

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.

SYLLABUS

Hrs	Frontal teaching
2	Anatomy of the endodontium and the periodontium. Anatomy, histology and physiology of dental tissues and the dentinal pulp organ.
2	Clinical classification of periradicular diseases. Iatrogenic damage to the pulp. Complications of dental caries. Etiopathogenesis, anatomical-clinical classification, prevention, dental caries diagnosis.

2	Endo-periodontal relationships: pathology, diagnosis, therapy, prognosis Pulp capping Pulp pathology and periradicular pathology - Intrinsic and extrinsic defense mechanisms of the pulp - Endodontic microbiology and immune response - Histopathological classification of pulp diseases - Clinical classification of pulp diseases –
2	Diagnosis in endodontics - Thermal tests - Percussion - Palpation - Periodontal probing - Anesthesia test.
2	Radiography in endodontics - Fundamentals of radiology and radiation protection - Dental radiographers - Digital radiology - Bisector technique - Parallel technique - Dam radiography - The rule of the vestibular object - The use of centering devices - Development and fixing of radiographic films - The darkroom - Conservation and archiving of radiographic films - Interpretation of radiographs in endodontics.
2	Anesthesia in endodontics. The isolation of the operating field: - The dam - The pre-treatment.
2	The opening of the pulp chamber: - Incisors - Canines - Premolars - Molars - The timing of the access cavity.
3	The shaping of the root canal system: - The mechanical and biological principles of H. Schilder - The endodontic instruments - The ISO standards - The standardization Profile - The various types of manual and mechanical instruments - The correct use of the endodontic files - The length of work - The use of electronic detectors of the apical foramen - The diameter of the apical foramen - The step-back instrumentation technique: advantages and limitations.
3	Cleaning root canals: - Biological reasons for cleaning the root canal system. - Irrigants: product category and correct use. - Use of ultrasound to enhance the action of irrigants: advantages and limitations.
3	The early coronal enlargement instrumentation technique: advantages and limitations - The Ni-Ti alloy - The mechanical characteristics of Ni-Ti instruments with increased taper - The manual Ni-Ti instruments with increased taper: characteristics and operating techniques.
3	Use of endodontic handpieces, prevention of endodontic instrument fractures, iatrogenic damage in endodontics. - Sterilization and conservation of endodontic instruments.
2	Root canal dressings: - Biological reasons for the dressing.
2	Emergencies in endodontics: diagnosis and treatment.

MODULE CONSERVATIVE DENTISTRY I

Prof. GIUSEPPE GALLINA

SUGGESTED BIBLIOGRAPHY

- Propedeutica Clinica Odontostomatologia. Eramo S., Barraco G., Ed. Ariesdue. Milano 2020
- Anatomia dentaria. M. Lautrou. Ed. Masson, Milano.
- Manuale di Disegno e Modellazione dentale. Mangani F., La Manna A. Martina Ed. Bologna.
- Carie dentali. Malattie e trattamento clinico. Fejerskov O., Kidd E.A.M. Antonio Delfino Ed., Roma.
- Moderni orientamenti per la restaurazione dentale. Anderlini G. Martina Ed. Bologna.
- Odontoiatria Restaurativa. Procedure di trattamento e prospettive future. AA.VV.. Masson – Elsevier Ed. Milano.
- Il Restauro conservativo dei denti anteriori. Vanini L., Mangani F. et al. ACME Ed. Viterbo.
- MED Tutor Odontoiatria. Ottavo modulo. I restauri diretti in composito nei denti anteriori. Vanini L.; UTET Scienze Mediche Ed. Milano.
- Appunti delle Lezioni, Articoli scientifici e Monografie forniti dal Docente.

AMBIT	50448-Discipline odontoiatriche e radiologiche
INDIVIDUAL STUDY (Hrs)	60
COURSE ACTIVITY (Hrs)	40

EDUCATIONAL OBJECTIVES OF THE MODULE

The teaching objectives are to:

- Know the physiology of pulp-dentin organ. Know the aetiology, prevention, diagnosis and treatment of dental caries and its complications.
- Know the etiopathogenesis, establishing protocols for prevention, provide diagnosis and treatment protocols of dental diseases amenable to conservative therapy, functional and aesthetic, and be able to formulate a differential diagnosis with the conditions that need endodontic treatment;
- Discover tools and techniques of cavity preparation and conservative dental restoration element in relation to the materials used by restoration.
- know the relationships between the restorations and the periodontal tissues and its interrelations with stomato-gnathic function.
- Know the aetiology, prevention, diagnosis and principal of treatment of pulp and periradicular diseases.

SYLLABUS

Hrs	Frontal teaching
1	Elements of Histology, Anatomy and Physiology of enamel and pulpo-dentin organ. Elements of the anatomy of Periodontium.
1	graphic designation of permanent and deciduous teeth. Chronology of teeth eruption.
2	shape and function of the teeth. Occlusal plan. Intra-arch and inter-arch dental relations.
3	Aetiology, anatomical and clinical classification, prevention and diagnosis of dental caries. Complications of dental caries
1	Radiographic diagnosis of dental caries and periodontal disease. Evaluation of intraoral Rx and Bite Wing.
1	Diagnosis of pulpitis, necrosis, and regressive alterations of the dental pulp. Registration of clinical data
1	Clinical and instrumental examination for diagnosis in Conservative Dentistry and Periodontology
1	Elements of periodontal therapy: objectives and operating times. Concepts of biological width and lengthening of the clinical crown
1	Oral hygiene and polishing: tools and techniques
1	Designation of cavity surfaces, classification and principles of cavity preparation according to Black and SI/STA.
2	Instruments for cavity preparation, (manual and rotary): features, use, sterilization and storage.
2	Principles and minimally invasive restoration techniques.
1	Evolution of the principles, materials and techniques for the pulp-dentin protection.
1	Aetiology and treatment of dentin hypersensitivity
1	Iatrogenic damage to the pulp.
1	Techniques of Anesthesia in restorative dentistry
1	Direct and indirect pulp capping techniques
3	Principles and enamel-dentin bonding techniques.
1	Characteristics and utilization techniques in conservative dentistry of ZOE cements, oxyphosphate Zn, calcium hydroxide, silver amalgam, gold, composite resins, Compomers, glass ionomer cements.

2	isolation of the operative field.
1	Silver amalgam restorations: class II. Tools and condensation techniques, modeling, finishing and polishing of restorations.
2	Composite resin restoration: preparation, etching and bonding of enamel and dentin surfaces.
3	Principles and techniques of minimally invasive restorations.
1	Shape and color in aesthetic dental restorations.
3	Restorations in composite resins: class I, II, III, IV and V.
1	Instruments and application techniques, modeling, finishing and polishing of composite resin restorations.
1	Recurrent caries in silver amalgam and composite resin restorations.