DISCIPLINE SYLLABUS

1. GENERAL INFORMATION

1.1. Institution of Higher education	**University of Medicine and Pharmacy of Craiova**
1.2. Faculty	**Faculty of Dentistry**
1.3. Department	**2**
1.4. Study Field	Medicină dentară
1.5. Study Cycle	Licență și master comasat
1.6. Study Program	Medicină dentară (ro)
1.7. Qualification	Doctor medic stomatolog
1.8. Qualification Level	Nivelul 7 CNC/ CEC(EQF)/ ISCED
1.9. Study Form	Full-time

2. DISCIPLINE INFORMATION

2.1. Discipline Name					**ENDODONTICS II**			
2.2. Holder of Lecture Activities					**DIACONU OANA ANDREEA**			
2.3. Holder of Laboratory Activities					Lelia Gheorghiţă, Anca Gabriela Gheorghe/Carina Alexandra Bănică			
2.4. Year of Study	5	**2.5. Semester**	9	**2.6. Type of Evaluation**	EC ES (VP, E)	**2.7. Regime of Discipline**	**Formative Category**	DS - disciplină de specialitate
							Discipline Status	DOB - obligatorie
2.8 Discipline Code					**MD5201**			

3. ESTIMATED TOTAL TIME (teaching hours per semester)

3.1. Number of hours per week	12	**3.2. From which: lecture:**	3	**3.3. Laboratory**	9
3.4. Total hours in curriculum	168	**3.5. From which: lecture:**	42	**3.6. Laboratory**	126
3.7. Additional preparation hours through teaching activities (projects, research, and work visits, etc.)					-
3.8.Examinations					5
3.9. Total teaching hours					**173**
3.10. Individual study hours					
3.10.1 Study from manual, course support, references and notes					3
3.10.2 Additional documentation in the library, specialized electronic platforms, and on the field					7
3.10.3. Seminars/Labs preparation					4
3.10.4. Preparation of homework, reports, portfolios, and essays					-
3.10.5. Preparation for presentations or assessments; preparation for final evaluation					10
3.10.6. Other activities: counselling, student scientific programs					3
3.11. Total hours of individual study					**27**
3.12. Total hours per semester (teaching hours + individual study hours)					**200**
3.13. Number of credits (1 credit=25 hours)					**8**

4. PREREQUISITES

4.1 curriculum	Attendance and/or successful completion of the following fundamental and specialized disciplines, which provide the necessary theoretical and practical basis: Anatomy, Histology of the Oral Cavity, Dental Morphology, Physiology, Biochemistry, Microbiology and Immunology,

	General Pharmacology, Internal Medicine, Dental Materials, Dental Therapy, Dento-Maxillary Radiology, Anesthesia and Sedation in Dentistry,
4.2 competency	**At the beginning of the Endodontics discipline, the student must demonstrate the following minimum competencies:** Knowledge of the anatomy and morphology of the endodontic system • Understanding Pulp and Periapical Pathological Processes • Ability to interpret periapical dental X-rays • Infection Control and Asepsis Basics • Correct use of basic dental instruments • Realization of access cavities for restorations • Handling common dental materials • Application of the rules of isolation of the operating field (dam) • Clinical examination of the patient and completion of the patient file • Working under supervision and following the teacher's instructions

5. CONDITIONS

5.1. of lecture deployment	-In order to participate in the course-type teaching activity, students must know and comply with the provisions set out in: UMFCV Charter, Teaching and Professional Activity Regulations for Students, Internal Regulations of the discipline, Student Examination Methodology, UMFCV Code of Ethics and Deontology - Amphitheater with projection system - Late arrival and access after the teaching activity has begun are not permitted, as they disrupt the lecture flow. - During the course, students will have their mobile phones turned off. It is forbidden to take photos/recordings during the course, without the teacher's consent
5.2. of laboratory deployment	- Labs take place in appropriately equipped spaces: **lab room 402 and 404 in Building B, 4th floor** - Attendance at labs is mandatory and conditioned by wearing specific equipment; - Labs are organized by groups of students, according to the schedule. It is not allowed to carry out the clinical internship with a group other than the one in which the student is registered - The provisions of the teaching and professional activity regulations of the students and of the internal regulations of the discipline will be strictly observed - The aim is to rigorously comply with the rules of hygiene, safety and professional conduct - During the labs, students will have their mobile phones turned off. It is forbidden to take photos/recordings during practical activities, without the teacher's consent - Late arrivals and entry after the teaching activity has begun are not permitted, as they disrupt the conduct of the lab. - It is necessary to execute a **mandatory barem** that involves performing at least 6 therapeutic procedures, of which: minimum 5 endodontic treatments performed with rotary instruments on extracted teeth/endoblocks) both single-rooted and multi-rooted teeth minimum 1 endodontic retreatment performed on extracted teeth/endoblocks (single/multi-rooted teeth)

6. COMPETENCIES

By completing this course, the student will develop the following professional and transversal competencies, in accordance with the list of competencies specified by the CNC/CEC (EQF), aligned with the European ESCO framework and the ARACIS 2026 standards.

6.1. Profesional Competencies	CI – Identification of the disease status and establishment of the correct diagnosis of dental conditions C2 – Conservative therapy of dento-periodontal structures

6.2. Transversal Competencies	CT1 – Identification of objectives to be achieved, available resources, conditions for their completion, work stages, working times, corresponding deadlines, and associated risks CT2 – Identification of roles and responsibilities within a multidisciplinary team, and application of interpersonal and teamwork techniques both within the team and in interactions with the patient; Execution of a task/project, responsibly carrying out tasks specific to one's role within a multidisciplinary team CT3 – Efficient use of information sources and professional development and communication resources (Internet portals, specialized software applications, databases, online courses, etc.) in both Romanian and an internationally used language

7. DISCIPLINE OBJECTIVES

7.1. The General Objective of the Discipline:	The Endodontics II discipline aims **to train and develop the theoretical and practical skills necessary for the diagnosis, prevention and treatment of pulp and periapical diseases**, integrating the knowledge previously acquired within the fundamental and specialized disciplines of the Dental Medicine program. The discipline contributes to the development of clinical reasoning and to the preparation of the student for general dental practice, by addressing the basic principles of endodontic treatment, the correct use of imaging investigations and the application of clinical protocols in safe conditions and professional ethics.
7.2. The Specific Objectives of the Discipline (OS):	**SO1**: **Description** of the anatomy and morphology of the endodontic system and its clinical particularities. **SO2: Explanation** of the etiopathogenic mechanisms of pulp and periapical diseases, of the interrelations with periodontal disease, of the ways of production, prevention and treatment of dental trauma produced both at the level of vital teeth and at the level of endodontically treated teeth **OS3: Performing** the anamnesis and complete endodontic clinical examination. **SO4: Application and interpretation** of pulp sensitivity tests. **SO5: Interpretation** of 2D, 3D dental X-rays for diagnostic and therapeutic purposes. **SO6: Establishing** the correct pulpal and periapical diagnosis. **SO7: Development** of an endodontic treatment plan for uncomplicated cases of pulpo-periapical disorders **SO8: Achieving** the isolation of the operating field by using rubber dam. **SO9: Performing** the endodontic access cavity and instrumentation, irrigation and filling of root canals according to standard protocols. **SO10: Recognition and management** of simple endodontic incidents and accidents. **SO11: Application** of the principles of asepsis, antisepsis and patient safety. **SO12: Effective communication** with the patient and compliance with the principles of medical ethics. **SO13: Integrating** the principles of evidence-based medicine into basic clinical decision-making. **SO14: Recognize** the limits of one's own competence and indicate the need to refer complex cases.

8. LEARNING OUTCOMES

8.1.Knowledge (CU)	The student/graduate accumulates, describes, analyzes and evaluates specialized knowledge regarding the structures of the dento-maxillary apparatus, the pathology of the teeth, and the tissues of the oral cavity, as well as the principles of diagnosis and treatment (prophylactic, preventive, interceptive and curative) specific to endodontics, through classical or digital methods/techniques. **By completing the Endodontics II discipline, the student will be able to:** **CU1:** to understand the fundamental concepts of pulpo-periapical anatomy, physiology and pathology **CU2:** to know techniques and materials used in instrumentation and obturation of the endodontic system: Students will be able to identify and describe modern endodontic shaping and obturation techniques as well as the materials used in endodontic treatments **CU3:** interpret dental x-rays relevant to the diagnosis of endodontic pathology (2D, 3D). **CU4:** to know the local and general emergency treatment of endodontic diseases and the moment of its establishment. **CU5:** to be able to choose the appropriate therapeutic solution for the coronary restoration of endodontically treated teeth.
8.2. Skills (AP)	The student/graduate acquires and proves specialized clinical experience under appropriate supervision. Gradually and gradually, during the years of study, performs practical and clinical maneuvers necessary to ensure the specific professional competencies (knowledge, skills and aptitudes) of the dental profession. **By completing the Endodontics II discipline, the student will demonstrate the ability to:** **AP1:** correctly and completely perform the patient's anamnesis and examination **AP2:** correctly diagnose endodontic conditions through clinical evaluation and use of radiological techniques**.** **AP3:** recognizes and uses the specific instruments, materials and endodontic equipment presented during the practical demonstrations during clinical internships in order to prepare and obturate root canals **AP4:** learn to manage complications that may arise during endodontic treatment, demonstrating appropriate clinical reasoning. **AP5:** interpret appropriately the complementary examinations necessary to establish the endodontic diagnosis
8.3.Responsibility and Autonomy (RA)	The student/graduate integrates and applies specialized skills necessary for the prevention, diagnosis and treatment of diseases of the teeth, jaws and related tissues. evaluates, analyzes, differentiates, estimates, interprets and uses the information, knowledge, skills and responsibilities accumulated during the years of study, in order to obtain the skills necessary to practice the profession of dentist. **By going through the discipline of Endodontics II, the student will prove:** **RA1:** the ability to make informed and autonomous decisions in endodontic treatments, taking into account the indications and contraindications of procedures. **RA2:** the ability to understand and apply the principles of professional ethics and deontology in endodontic practice, demonstrating responsibility towards patients. **RA3: the ability to work in a team and collaborate with other dental health specialists, promoting an integrated approach to patient care.** **RA4:** Proper Acquisition and Use of Medical Vocabulary **RA5:** appropriate use of information and communication technology

9. CONTENT AND ORGANIZATION OF TEACHING-LEARNING ACTIVITIES

The teaching-learning process includes explanatory methods (lecture), demonstrative (demonstration, modeling), interactive (guided questions, debates), but also practical applications through exercises, clinical papers or simulations. The active participation of students, team collaboration, use of digital platforms and learning through problem solving are encouraged. The methods are adapted to the specifics of the discipline and support the development of critical thinking, professional autonomy and technical skills.

9.1. LECTURE	Allocated Time (hours)	Teaching Methods	Observations

1. Introduction. Recapitulation of the information received within the discipline Endodontics I regarding the diagnosis method and treatment possibilities of inflammatory pulp diseases	*3 h lecture/ week*	Interactive lectures / conversation / brainstorming / exemplification through short presentations of clinical cases / guided questions and brainstorming for knowledge activation / debate	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
2. Endodontic microbiology Pulp necrosis: etiopathogenesis, histopathology, types, clinical signs, positive and differential diagnosis, evolution, complications	*3 h lecture/ week*	Interactive lectures / conversation / brainstorming / exemplification through short presentations of clinical cases / guided questions	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
3. Morpho-physiology of periapical periodontium. Pathology of periapex: etiology, classification.	*3 h lecture/ week*	Interactive lectures / conversation / brainstorming / exemplification through short presentations of clinical cases / guided questions	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
4. Acute apical periodontitis: etiopathogenesis, anatomoclinical forms histopathology, clinical signs, positive and differential diagnosis, evolution and complications	*3 h lecture/ week*	Interactive lectures / conversation / brainstorming / exemplification through short presentations of clinical cases / guided questions	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
5. Chronic apical periodontitis: histopathology, clinical signs, positive and differential diagnosis, evolution and complications	*3 h lecture/ week*	Interactive lectures / conversation / brainstorming / exemplification through short presentations of clinical cases / guided questions	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
6. Peculiarities of endodontic treatment in pulp necrosis complicated with acute/chronic apical periodontitis	*3 h lecture/ week*	Interactive lectures supported by PowerPoint presentations/ conversation/ problematization/ exemplification through short presentations of clinical cases/evidence-based strategies	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
7. Materials for root canal obturation. Root canal filling techniques	*3 h lecture/ week*	Interactive lectures supported by PowerPoint presentations/ conversation/ problematization/ exemplification through short presentations of clinical cases/evidence-based strategies	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
8. Prognosis of primary endodontic treatment. Causes of failure of primary endodontic treatments. Orthograde	*6 h lectures / 2 weeks*	Interactive lectures supported by PowerPoint presentations/ conversation/ problematization/ exemplification through short presentations of clinical	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos.*

endodontic retreatment. Endodontic surgery.		cases/evidence-based strategies/promotion of critical thinking	*Formative evaluation through a number of 5 grids adapted to the theme of the course*
9. Restoration of endodontically treated teeth	*3 h lecture/ week*	Interactive lectures supported by PowerPoint presentations/ conversation/ brainstorming/ exemplification through short presentations of short clinical cases	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
10. Endo-periodontal lesions: classification, diagnosis, treatment methods	*3 h lecture/ week*	Interactive lectures / conversation / problematization / exemplification through short presentations of clinical cases	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
11. Root resorptions - types, diagnostic methods, differential diagnosis, treatment possibilities, prognosis	*3 h lecture/ week*	Interactive lectures / conversation / problematization / exemplification through short presentations of clinical cases	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
12. Root-crown trauma. Classification, symptomatology, treatment. Cracked tooth syndrome. Split tooth syndrome. Vertical root fracture in endodontically treated teeth (symptomatology, diagnosis, treatment)	*3 h lecture/ week*	Interactive lectures / conversation / problematization / exemplification through short presentations of clinical cases	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
13. Endodontic emergencies. Antibiotics in endodontics.	*1,5 h lecture / week*	Interactive lectures / conversation / problematization / exemplification through short presentations of clinical cases	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
14. Criteria for evaluating the results of endodontic treatment. Incidents and accidents occurring during endodontic treatment. Recapitulation of the taught knowledge	*1,5 h lecture / week*	Interactive lectures / conversation / problematization / exemplification through short presentations of clinical cases / Guided questions and brainstorming for knowledge activation / debate	*Oral presentations with PowerPoint support supplemented with images from pathology / imaging or / and didactic videos. Formative evaluation through a number of 5 grids adapted to the theme of the course*
Total	**42 h/ semester**		

MANDATORY BIBLIOGRAPHY:

1. Course materials available on the platform: www.student.umfcv.ro
2. Diaconu Oana, M. Tuculina, M. Bataiosu, L. Gheorghita, C. Petcu, Endodontics, Vol. 1: Clinical Aspects and Treatment of Pulp-Periapical Conditions, Universitaria Publishing, Craiova, 2017.

3. Residency Manual, edited by Prof. Dr. Ecaterina Ionescu, Vol. 1, Carol Davila University Publishing, Bucharest, 2021 – Endodontics chapter.

4. Berman LH, Hargreaves KM. Cohen's Pathways of the Pulp, 12th Edition.Elsevier, 2020.
5. Castellucci A. Endodontics, Volume 1 and 2, 1st Edition. Edra, 2022.
6. Rotstein I, Ingle JI. Ingle's Endodontics, 7th Edition. Pmph USA Ltd, 2019.
7. Torabinejad M, Fouad A, Shabahang S. Endodontics: Principles and Practice, 6thEdition. Elsevier, 2020.

OPTIONAL BIBLIOGRAPHY:

1. Patel Shanon, Justin J. Barnes *The Principles of Endodontics,3rd ed.,* **Oxford University Press,2019**

2. Patel Sh.,Harvey S, Shemesh H.,Durack C., *Cone Beam Computed Tomography In Endodontics* . Quintessence Publishing, United Kingdom,2016

9.2. LABORATORIES	Time allocated (hours)	Teaching methods and continuous evaluation (EC)	Practical activity performed by students
1.Morphology of the endodontic space. Instruments for consultation and treatment in endodontics (handling techniques). Achieving working length. Chemo-mechanical treatment of manual canal by regressive telescoping. Obturation of canals by the technique of lateral cold condensation of guttapercha (recapitulation of the notions of year IV - Endodontics I)	*9 h labs/ week*	Brief presentation of clinical observations, interactivity EC by assessing the degree of involvement during practical work	*Type of activity:* examination of extracted teeth and group identification, radiological analysis of internal morphology, recognition of endodontic instruments- *Degree of involvement:* individual, team, assisted *Instruments used:* extracted teeth, periapical X-rays, endodontic instruments, laptop, monitor *Objective of the activity* - the student will develop through this activity the following skills: C1, CT 1, CT2, CT 3,
2.Establishing the positive and differential diagnosis of pulp diseases. Anesthesia techniques in endodontics. Isolation of the operative field in Endodontics.	*9h labs /week*	Case-based learning Clinical reasoning exercises, formulation and argumentation of the positive and differential diagnosis - interactive discussion with the group guide; Medical therapy exercises with involvement in dental treatment EC by assessing the degree of involvement during practical work	***Type of activity****:* clinical case simulation with reversible and irreversible pulp inflammations. Presentation of the rubber dam isolation system. Practice of the techniques of applying the rubber dam. Isolation of the dam teeth in various clinical situations. Simulation on phantom/model of various situations requiring isolation with the dam system, interactive collective exercises to learn clinical reasoning and therapeutic prescription exercises; case-based learning; learning in interdisciplinary teams ***Degree of involvement****:* individual, team, assisted ***Instruments used****:* pre, intra and postoperative images of clinical cases from the discipline's archive, periapical radiographs related to clinical cases, rubber dam isolation system, laptop, monitor ***Objective of the activity*** - the student will develop through this activity the following skills: C1, C2, CT 1, CT2, CT 3,
3.Access cavity (on extracted teeth/endoblocks). Rotary enlargement of root canals. Ni-Ti drill systems. Types of rotary enlargement movements.	*18 h labs / 2 weeks*	Assisted and autonomous individual activity Individual clinical portfolio/ barem guidance	*Type of activity* Simulation of shaping root canals (on extracted teeth/endoblocks) using the continuous rotation rotary system for mechanical treatment *Degree of involvement:* individual, team, assisted *Instruments used:* extracted teeth / endoblocks, endodontic access creation cutters, manual and rotary instruments for shaping the root canal, endodontic micromotors, endodontic rulers, lavage fluid, luerlack syringes, irrigation needles

		EC by assessing the degree of involvement during practical work	*Objective of the activity* - the student will develop through this activity the following skills: C1, C2, CT 1, CT2,
4. Preparation of the clinical observation sheet and obtaining the patient's informed consent. Elements of periapex anatomy. Diagnostic tests and examination of the patient in simple and complicated pulp necrosis with apical periodontitis. Radiographic and computed tomographic examination in apical periodontitis	*9 h lab/ week*	Supervised individual activity - anamnesis, objective examination - exo-oral; Clinical reasoning exercises, formulation and argumentation of the positive and differential diagnosis - interactive discussion with the group tutor EC- Short evaluations - oral and/or written of the topic addressed	*Type of activity:* examination, simulation, drafting of documents (filling in an observation sheet), clinical-radiological analysis of the case, *Degree of involvement:* individual, team, assisted *Instruments used:* dental unit, consultation kit, observation sheet, informed consent, pre, intra and postoperative images of clinical cases from the discipline's archive, periapical x-rays/CBCT related to clinical cases, laptop, CS software, monitor *Objective of the activity* - the student will develop through this activity the following skills:. C1, CT1, CT2.
5. Establishing the positive and differential diagnosis of periapical diseases. Endodontic irrigation. Local/general drug treatment: pros and cons	*18 h labs /2weeks*	Clinical demonstrations in the laboratory/simulation Guidance of the individual clinical portfolio/barem, case presentation, interactivity; clinical reasoning exercises, formulation and argumentation of the positive and differential diagnosis - interactive discussion with the group advisor; EC- Short evaluations - oral and/or written of the topic addressed EC by assessing the degree of involvement during practical work	*Type of activity:* diagnostic/therapeutic news, clinical case simulation with acute apical periodontal inflammation, clinical-radiological case analysis, urgent development of a combined local and drug treatment plan for the management of pain, anxiety and infection. Simulation of chemo-mechanical root canal treatment (on extracted teeth/endoblocks) using the continuous rotating rotating system for shaping, interactive collective exercises for clinical reasoning and therapeutic prescription exercises; case-based learning; learning in interdisciplinary teams *Degree of involvement:* individual, team, assisted *Instruments used:* pre, intra and postoperative images of clinical cases from the discipline's archive, periapical radiographs/CBCT related to clinical cases, laptop, CS software, monitor, dental unit, extracted teeth/endoblocks, endodontic access creation burs, manual and rotary instruments for canal enlargement, endodontic micromotors, endodontic rulers, lavage fluid, luerlack syringes, irrigation needles *Objective of the activity - the student will develop through this activity the following skills:. C1, CT1, CT2.*
6. Case selection and treatment plan in apical periodontitis. Comparison with the treatment of irreversible pulp inflammations. Coronary restoration before endodontic treatment (Pre-endo build-up)	*9 h labs /week*	Case presentation; Brief presentation of clinical observations, Interactivity; Clinical reasoning exercises, formulation and argumentation of the	*Type of activity:* clinical case simulation with apical pulp and periodontal inflammations, clinical-radiological case analysis. Visualization of demonstration films for the pre-endodontic build-up, Identification and radiological and/or computed tomographic interpretation of apical periodontitis lesions, as well as combined endo-

		positive and differential diagnosis - interactive discussion with the group guide; Presentation of didactic films Case-based learning short evaluations - oral and/or written from the pathology taught EC by assessing the degree of involvement during practical work	periodontal lesions. Simulation of chemo-mechanical root canal treatment (on extracted teeth/endoblocks) using the rotating system in continuous rotation for mechanical treatment, interactive collective exercises to learn clinical reasoning and therapeutic prescription exercises; case-based learning; learning in interdisciplinary teams *Degree of involvement*: individual, team, assisted *Instruments used*: pre, intra and postoperative images of clinical cases from the discipline's archive, periapical radiographs/CBCT related to clinical cases, laptop, CS software, monitor, dental unit, extracted teeth/endoblocks, endodontic access creation cutters, manual and rotary instruments for canal enlargement, endodontic micromotors, endodontic rulers, lavage fluid, luerlack syringes, irrigation needles, endodontic micromotor *Objective of the activity* - the student will develop through this activity the following competences:. C1, C2, CT1, CT2, CT3
7. Methods of endodontic obturation. Endodontic materials. Technique of vertical compaction in root canal obturation. Thermomechanical compaction of guttapercha. Techniques of filling with gutta-percha on rigid support, hydraulic technique.	*9 h labs /week*	Clinical demonstrations in the laboratory/simulation Assisted and autonomous practical activities (work on extracted teeth/endoblock) Individual clinical portfolio/barem guidance Critical analysis of ethical-deontological case studies Presentation of didactic films Case-based learning EC- Short evaluations - oral and/or written of the topic addressed EC by assessing the degree of involvement during practical work	*Type of activity*: practical demonstrations of performing the filling techniques: vertical condensation in continuous wave, calibrated monocone, hydraulic, apical plug, applied technique of performing root canal filling by different methods, discussion of possible causes of failure in performing root canal filling techniques Identification and radiological and/or computer tomographic interpretation of apical periodontitis lesions Execution on the patient/simulation (on extracted teeth/endoblocks) of the chemo-mechanical root canal treatment using the rotary system in continuous rotation for mechanical treatment. Simulation of root canal filling by several techniques on extracted teeth/endoblocks. *Degree of involvement:* individual, assisted *Instruments used:* extracted teeth/endoblocks, sealer, gutta-percha cones/bars/cartridges, heat quarry, injection gun, pluggers, paper cones, endodontic ruler, manual files -series 1 and 2, (For the patient: consultation kit, burs, manual and rotary files, syringe, anesthetic, rubber dam isolation system, composite restorative material, matrices, die holders, endodontic irrigation solution, washing needles, paper cones, guttapercha cones, sealer, pluggers) *Objective of the activity* - the student will develop through this activity the following competences:. C1, C2, CT1, CT2
8. Prevention and treatment of acute hyperemic/exudative apical periodontitis generated by overflowing root canal filling.	*9 h lab/ week*	Assisted and autonomous practical activities (work on models or patients) Supervised individual activity - anamnesis, objective examination, interpretation of	*Type of activity:* clinical case simulation with apical periodontal inflammation after root canal obturation, clinical-radiological case analysis, . Identification and radiological and/or computer tomographic interpretation of apical periodontitis lesions. Execution on the patient/simulation (on extracted teeth/endoblocks) of endodontic treatment using the continuous rotating rotating system for mechanical treatment and for root canal obturation the hot vertical condensation

		clinical and paraclinical data Learning by solving clinical problems; Case-based learning Individual clinical portfolio/scale guidance Communication and team collaboration exercises EC by assessing the degree of involvement during practical work	technique of gutta-percha. Presentations of clinical cases with endodontic pathology requiring emergency treatment *Degree of involvement:* individual, group, assisted *Instruments used:* extracted teeth/endoblocks, burs for acces cavity, manual and rotary instruments for canap shaping, endodontic micromotors, endodontic rulers, irrigating solutions, luerlack syringes, irrigation needles, endodontic micromotor, sealer, gutta-percha cones/bars/cartridges, heat quarry, injection gun, pluggers, paper cones, endodontic ruler, manual files -series 1 and 2, (For the patient: consultation kit, burs, manual and rotary files, syringe, anesthetic, dam isolation system, composite restorative material, matrices, die holders, endodontic irrigating solutions, irrigation needles, paper cones, guttapercha cones, sealer, pluggers) *Objective of the activity* - the student will develop through this activity the following competences:. C1, C2, CT1, CT2
9. Failures of endodontic treatment and endodontic retreatment.	*9 h lab/ week*	Clinical demonstrations in the laboratory/simulation ; Assisted and autonomous practical activities (work on ghosts, extracted teeth, endoblock); Presentation of didactic films Individual clinical portfolio/barem guidance EC- Short evaluations - oral and/or written of the topic addressed EC by assessing the degree of involvement during practical work	*Type of activity*: practical demonstrations of performing root canal unclogging techniques. Performing an endodontic retreatment on extracted/endoblock teeth. Presentations of clinical cases with failures of orthograde endodontic treatment. 2D/3D radiological interpretations of endodontic pathology *Degree of involvement:* individual, in assisted team *Instruments used: extracted teeth / endoblocks* , acces cavity burs, manual and rotary instruments for canal shaping, endodontic micromotors, endodontic rulers, irrigation solutions, luerlack syringes, irrigation needles, endodontic micromotor, *Objective of the activity* - the student will develop through this activity the following competences: C1, C2, CT1, CT2
10. Endodontic microsurgery. Treatment of wide apex teeth. Root resorptions	*9 h lab/ week*	Case presentation Interactivity; Clinical reasoning exercises, formulation and argumentation of the positive and differential diagnosis - interactive discussion with the group guide; Presentation of didactic videos	*Type of activity*: Identification and radiological and/or computed tomography interpretation of apical periodontitis lesions, but also root resorptions. Presentations of clinical cases with endodontic pathology. *Degree of involvement:* individual, group, assisted *Tools used:* pre, intra and postoperative images of clinical cases from the discipline's archive, periapical radiographs/CBCT related to clinical cases, laptop, CS software, monitor *Objective of the activity* - the student will develop through this activity the following competences:. C1, C2, CT1, CT2,CT3

		EC- Short evaluations - oral and/or written of the topic addressed	
11. Blocking of microbial micro-infiltration in the endodontic space. Methods of coronary restoration of endodontically treated teeth.	*9h lab/ week*	Assisted and autonomous practical activities (work on models or patients) Individual clinical portfolio/scale guidance Critical analysis of ethical-deontological case studies Presentation of didactic films EC by assessing the degree of involvement during practical work	*Type of activity:* Presentations of clinical cases with direct and indirect coronary restorations of endodontically treated teeth. Presentations of multiple clinical situations that require direct or indirect restorations (classic and modern method) after endodontic treatment. Execution on the patient/Simulation (on extracted teeth/endoblocks of endodontic treatment) using the continuous rotation rotating system for mechanical treatment and the hot vertical condensation technique for root canal filling. Direct coronary restoration of teeth/endoblocks used for simulation of endodontic treatments. *Degree of involvement:* individual, group, assisted *Instruments used:* pre, intra and postoperative images of clinical cases from the discipline's archive, laptop, monitor, extracted teeth/endoblocks, access cavity burs, manual and rotary instruments for root canal shaping, endodontic micromotors, endodontic rulers, washing fluid, luerlack syringes, irrigation needles, endodontic micromotor, sealer, gutta-percha cones/bars/cartridges, heat quarry, injection gun, pluggers, paper cones, endodontic ruler, manual needles -series 1 and 2, composite material, demineralizing, adhesive, matrices, die holders (For the patient: consultation kit, burs, manual and rotary files, syringe, anesthetic, dam isolation system, composite restorative material, matrices, die holders, endodontic irrigation solutions, irrigation needles, paper cones, guttapercha cones, sealer, pluggers) *Objective of the activity* - the student will develop through this activity the following skills: C1, C2, CT1, CT2, CT3
12. Crown-root trauma. Cracked tooth syndrome. Cleft tooth syndrome. Vertical fracture in endodontically treated teeth.	*9h lab/ week*	Case presentation; Brief presentation of clinical observations, Interactivity; Clinical reasoning exercises, formulation and argumentation of the positive and differential diagnosis - interactive discussion with the group supervisor EC by assessing the degree of involvement during practical work	*Type of activity*: Presentation of clinical cases with traumatic pathology. Presentation of clinical cases with complex endodontic pathology for the recapitulation of the notions taught. Execution of coronary restoration of teeth/endoblocks used to simulate endodontic treatments *Degree of involvement:* individual, team, assisted *Instruments used:* pre, intra and postoperative images of clinical cases from the discipline's archive, periapical radiographs/CBCT related to clinical cases, laptop, CS software, monitor, composite material, demineralizing, adhesive, matrices, matrix holders *Objective of the activity* - the student will develop through this activity the following skills: C1, C2, CT 1, CT2, CT 3
Total	126 hours/		

	sem.	

MANDATORY BIBLIOGRAPHY:

1. Course materials available on the platform: www.student.umfcv.ro
2. Diaconu Oana, M. Tuculina, M. Bataiosu, L. Gheorghita, C. Petcu, Endodontics, Vol. 1: Clinical Aspects and Treatment of Pulp-Periapical Conditions, Universitaria Publishing, Craiova, 2017.
3. Residency Manual, edited by Prof. Dr. Ecaterina Ionescu, Vol. 1, Carol Davila University Publishing, Bucharest, 2021 – Endodontics chapter.
4. Berman LH, Hargreaves KM. Cohen's Pathways of the Pulp, 12th Edition.Elsevier, 2020.
5. Castellucci A. Endodontics, Volume 1 and 2, 1st Edition. Edra, 2022.
6. Rotstein I, Ingle JI. Ingle's Endodontics, 7th Edition. Pmph USA Ltd, 2019.
7. Torabinejad M, Fouad A, Shabahang S. Endodontics: Principles and Practice, 6thEdition. Elsevier, 2020.

OPTIONAL BIBLIOGRAPHY:

1. **Patel Shanon, Justin J. Barnes** *The Principles of Endodontics,3rd ed.,* **Oxford University Press,2019**
2. **Patel Sh.,Harvey S, Shemesh H.,Durack C.,** *Cone Beam Computed Tomography In Endodontics* . Quintessence Publishing, United Kingdom,2016…

10. CORRELATION OF THE DISCIPLINE'S OBJECTIVES AND EXPECTED LEARNING OUTCOMES WITH THE EXPECTATIONS OF INTERESTED PARTIES

1. The Endodontics discipline is a specialized discipline, mandatory for a student to become a dentist, the discipline proposing the correct training for medical practice and the acquisition of the knowledge necessary for the dissertation and residency exam
2. The knowledge, practical skills and attitudes learned in this discipline provide the basis for medical reasoning and clinical activities and constitute the foundation for knowing the therapeutic options that the dentist has at hand for solving the endodontic problems of patients
   - In order to sketch, permanently update the contents of the courses/clinical internships and to choose the teaching/learning methods, the holder of the discipline organizes meetings with the members of the Romanian College of Dentists, specialized in the field of Endodontics, as well as with other teachers in the field, tenured in other higher education institutions. The meetings aim to identify the needs and expectations of employers in the field and to coordinate with other similar programs within other dental higher education institutions.

11. RECOVERY PROGRAMS AND STIMULATION OF LEARNING MOTIVATION

11.1 Recovery Programs					
Activity Type	**Number of Recoverable Absences**	**Place of Conduct**	**Period**	**Responsable**	**Topic Schedule**
Absences recoveries	**5**	Endodontics Clinic	The Last 2 Weeks of the Semester	Teachers who support the activity in the discipline of Endodontics	According to the discipline timetable
Consultation schedule	2hours/week	Endodontics Clinic	Weekly	Head of Discipline	According to the discipline timetable
Program for Under-Prepared Students	4hours/sem	Endodontics Clinic	Last two weeks	Head of Discipline	According to the students' needs
11.2. Stimulation of Learning Motivation Programs					
	Name of Scientific Club / Scientific Topics		**Place of Conduct**	**Period**	**Responsible**
Student Scientific Club	Endo Club		Building B, floor 4, room 404	October-december/ march-may	Assistant Prof. dr. Anca Gheorghe
Scientific Projects / Report					

Workshops	Held during the Dentisity student congress and the Interdentis program	Building B, floor 4, room 404	November/ April	Assistant Prof. dr. Anca Gheorghe / Assistant Prof. dr Carina Banica
Student Competitions				
Other Activities				

12. EVALUATION

Activity Type	**12.1. Evaluation Criteria**	**12.2. Evaluated Learning Outcomes**	**12.3. Evaluation Methods**	**12.4. Percentage of the Final Grade**
12.5. Course	Correctness of answers to grid questions; ability to integrate knowledge from the topics taught	The following codes will be respected: CU1, CU2, CU3, CU4, CU5 RA1, RA2, RA4,RA5	***Grid test** x 40 questions* ***Test oral*** *(2 topics from the subject taught)*	50%
12.6. Laboratory	Correctness of the execution of the workmanship; Compliance with clinical stages and standard protocols; Accuracy and quality of the final result Explanation of clinical or technical reasoning;	The following codes will be respected: CU1, CU2, CU3, CU4,CU5, AP1-AP5, RA1 – RA5	Analysis and evaluation of the barem of maneuvers performed (minimum 5 endodontic treatments performed with rotating instruments on extracted teeth/endoblocks) both single and multi-rooted teeth and at least 1 endodontic retreatment performed on extracted teeth / endoblocks (single/multi-rooted) Discussion of a clinical case, the particularities of the diagnosis and the therapeutic approach	35%

12.7. Activity During the Semester	Ability to argue theoretical concepts; Clarity of expression and logical organization of information; Ability to synthesize and integrate knowledge from the topics taught; Active presence and participation in all practical activities; Correct and complete performance of the specific labors of each work; Practical application of theoretical knowledge in a logical way; Compliance with the norms of hygiene, ethics and professional safety;	The following codes will be respected: CU1, CU2, CU3, CU4,CU5, AP1-AP5, RA1 – RA5	*Ongoing practical assessment; evaluation of activity during labs;* *Grid test (40 questions) from the theme of the first 7 courses* ❁ *Appreciation of the internship activity by the group tutor;* ❁ *Assessment of attendance and engagement during practical work*	15%
12.8. Minimum Performance Standard	The minimum performance standard implies the achievement of a satisfactory level of the competences provided for in the learning outcomes, by obtaining a minimum, e.g. 50% of the total score related to the evaluated activities (course + practical work). The student demonstrates the ability to: 1. identifies pulpo-periapical disorders, describes them and establishes their correct diagnosis 2. correctly perform the anamnesis and clinical examination of the patient with endodontic conditions 3. properly interpret the radiological images characteristic of endodontic conditions • perform specific therapeutic procedures correctly and safely			
12.9. Promotion conditions	In order to be considered promoted, the student **must cumulatively meet** the following conditions: 1. To pass the written test (40 grid-type questions), from the theme of the first 7 courses, the minimum passing grade being 7. The test can be taken no more than twice before the start of the first exam session. During the pre-session, a third possibility of taking the test will be organized, on a date to be announced in advance, in order to ensure access to the backlog sessions. Students who do not pass the test or do not attend any of the three support possibilities will not have the right to attend the two backlog sessions scheduled in the fall; 2. to meet the minimum barem of maneuvers with which the student will present himself at the practical exam in order to analyze it; 3. to have 100% attendance at clinical internships or in case of accumulation of absences they should be fully recovered, within the limit of the maximum number allowed; 4. to obtain a minimum grade of 5 (five) in the theoretical evaluation (course – grid test and oral test 2 subjects); 5. to obtain a minimum grade of 5 (five) in the practical evaluation 6. to comply with the university regulations on academic conduct and not to have been involved in evaluation fraud.			

Date of Department Approval:

18.09.2026

Department Director, **Program Coordinator,** **Course Coordinator,**

Prof. univ Dr. Mihaela Ţuculina Jana **Prof. univ Dr. Adrian CAMEN** **Conf univ. Dr. Oana Andreea Diaconu**