



CD 8.5.1 DISCIPLINE CURRICULUM FOR  
UNIVERSITY STUDIES

Edition:	08
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FACULTY STOMATOLOGY  
STUDY PROGRAM 0911.1 STOMATOLOGY  
CHAIR OF ODONTOLOGY, PERIODONTOLOGY AND ORAL  
PATHOLOGY "SOFIA SÎRBU"

APPROVED

at the meeting of the Commission for Quality  
Assurance and Evaluation of the Curriculum in  
Stomatology

Minutes No. 1 of 22.09.2020  
Chairman, PhD, associate professor  
Stepco Elena [Signature]  
(signature)

APPROVED

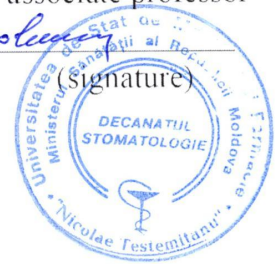
at the Council meeting of the Faculty  
Stomatology

Minutes No. 2 of 30.09.2020  
Dean of Faculty, PhD, associate professor  
Solomon Oleg [Signature]  
(signature)

APPROVED

approved at the meeting of the chair Odontology,  
periodontology and oral pathology "Sofia Sîrbu"

Minutes No. 01 of 15.08.2020  
Head of chair, PhD, DMD, professor  
Ciobanu Sergiu [Signature]  
(signature)



CURRICULUM

DISCIPLINE THE PRACTICAL INTERNSHIP AT DISCIPLINE  
THERAPEUTICAL DENTISTRY

Integrated studies

Type of course: **Compulsory**

Curriculum developed by the group of authors:

Ciobanu Sergiu, PhD, DMD, professor

Chişinău, 2020



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### **I. PRELIMINARY**

#### **General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the vocational / speciality training program**

The practical internships are an integral part of the educational process and are designed to improve the theoretical knowledge gained by students during the year of study and skills training established by the National Qualifications Framework on Vocational Training.

For the organization and performing of practical internships, the department appoints responsible persons obliged to ensure the distribution of the students according to the established destination, the observation of the term of the traineeships, the observance by the students of the internal rules of the institution where he / she was assigned, professional skills acquired by the practitioner, as well as the behavior and the way of integrating it into the unit-base activity.

The practical internships are carried out at the University Clinics, Public Medical and Sanitary Institutions at Republican, Municipal and District level, Dentistry Clinics (state and private), further bases of practical training, identified by the University.

The practical training aims at familiarizing with the basics of the future speciality, acquiring the necessary skills for the professional training, developing the necessary practical skills adequate for the theoretical training in the professional activity depending on the real socio-economic conditions, conducting the research, documenting and collecting the information for the realization of a scientific project of the bachelor thesis.

Upon expiration of the internship period, students submit individual reports / reports according to a predefined model, according to the requirements developed by the department and approved according to the internal regulations of the institution. Depending on the field of professional formation, projects, models, creative works, portfolios, etc. may be attached to the practice report.

#### **Mission of the curriculum (goal) in vocational training**

The practical training aims to integrate the knowledge acquired by dental students in the Endodontics (diseases of the periapical tissues) and Conservative Periodontology disciplines at the end of the fourth year of education in order to ensure efficient, harmless dental care, observing the principles of ethics and medical deontology. At the same time, the clinical and paraclinical examination methods described in the disciplines aim to develop the skills and clinical thinking of students oriented toward skills accumulation in determining optimal methods of prophylaxis, diagnosis and treatment



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of patients and improving their quality of life.

Internships focus on:

- a) the general knowledge of the unit of practice in which the student is assigned;
  - b) observation and analysis of the functional processes, under the guidance of the coordinators from the base unit for the realization of the internship;
  - c) collecting information for the purpose of elaboration of the license thesis;
  - d) elaboration of the set of predefined documents and of the report on the practical training.
- **Languages of teaching:** Romanian, Russian and English.
  - **Beneficiaries:** fourth year students, Faculty of Stomatology.



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**II. ADMINISTRATION OF THE DISCIPLINE**

Code of the discipline		<b>S.08.O.104</b>	
Name of the discipline		<b>THE PRACTICAL INTERNSHIP AT DISCIPLINE THERAPEUTICAL DENTISTRY</b>	
Responsible for the discipline		Ciobanu Sergiu, PhD, DMD, professor	
Year	<b>IV</b>	Semester	<b>VIII</b>
Total Year hours including:		<b>90</b>	
Direct contact	<b>90</b>	Direct contact	<b>90</b>
Seminars	<b>0</b>	Seminars	<b>0</b>
Form of evaluation	<b>E</b>	Number of credits	<b>3</b>

**III. TRAINING OBJECTIVES IN THE DISCIPLINE**

***At the level of knowledge and understanding:***

- to know the structure and organization of dental care, organization and dental office equipment and periodontal dental office;
- to know the dental equipment, instruments and devices for complex examination;
- to be familiar with the examination, preparation and obturation tools for carious cavities, as well as the endodontic and periodontal treatment;
- To know the instruments for scaling, curettage and periodontal surgery.
- to know the place and role of odontotherapy in treatment and prophylaxis of dental affections;
- to know the role of Endodontics in medical sciences;
- to know the role of Periodontology in medical sciences;
- to know the rules of aseptic and antiseptic dentistry;
- to know the structure and functions of hard dental tissues and pulp, the anatomy of the endodontic space;
- to understand the physiological processes occurring at the level of the hard dental tissues (enamel, dentin and root cement), as well as in the pulp-dentinal complex and in marginal and supportive periodontium;
- to know the classification of dental caries, the odontal lesions of non-carious origin, pulpitis, apical periodontitis and marginal periodontitis (national and international);
- to know the etiological factors and the pathogenic mechanism in the onset and evolution of dental caries, pulpitis, apical periodontitis and marginal periodontitis;



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- to know and understand the mechanism of action of metabolic products from the carious process to the dental pulp and the whole body;
- to know the importance of the radiological examination in establishing the diagnosis and interpreting the manifestations on the radiological cliché;
- to know the index of plaque, bleeding and calculus index, and periodontal index;
- to know the techniques and procedures of anesthesia in dentistry;
- to know and understand the mechanism of action of anesthetics on the area of anesthesia and the entire body;
- to know and understand the causes of possible complications after application of anesthesia and emergency medical assistance;
- to know the isolation systems (rubberdam and its components) of the working field (teeth) in the treatment of dental caries and odontal lesions of non –carious origin, and endodontics.
- to know the techniques of isolation of working field;
- to know the principles of preparation of carious cavities (of Black and free design);
- to know and understand the properties and mechanism of action of themdrug remedies used in the treatment of dental diseases;
- to know and understand the mechanism of action of obturation materials on hard dental tissues and dental pulp;
- to know and understand the symptomatology of pulpitis, apical periodontitis and marginal periodontitis and the preoperative evaluation of the possibilities of correct endodontic treatment;
- to know and understand the symptomatology of marginal periodontal disease and its influence on the entire body;
- to know the examination and diagnosis methods of periodontal disease- gingivitis, marginal periodontitis (clinic and paraclinical examination)
- to know and understand indications and principles regarding the preservation of dental pulp through conservative biological treatment;
- to know the stages of endodontic treatment;
- to know and understand indications and contraindications for the method of amputation and extirpation of dental pulp;
- to know and understand methods of determining the working length of the root canals;
- to know and understand methods and techniques of permiabilization, mechanical processing of root canals;
- to know and understand the properties and mechanism of action of medicinal remedies used in the treatment of root canals;
- to know and understand techniques and methods of canal obturation;
- to know and understand the evaluation of endodontic treatment, the risks of possible failures and their clinical resolution;



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- to know occlusion elements as basic elements in direct dental restorations to both vital and devital teeth;
- to know the techniques, procedures, tools and materials for adjusting, polishing the final dental restorations;
- to be aware of possible errors and complications during and after odontal treatments;
- to know and understand the importance of monitoring the endodontic treated teeth;
- to know and understand the role of odontal lesions in the onset of focal disease.
- to know the procedures and techniques of removing the dental deposits (manual scaling, ultrasonic scaling, mixed and professional brushing)
- to know the instruments and devices used for removing the dental deposits;
- to know the techniques and instruments used in curettage with closed flap (indications, contraindications, stages and consequence)
- to know the medicamentous remedies in treatment of periodontal disease (antibiotics, oral antiseptics, biostimulation) local and general action.

### ***At application level:***

- to be able to collect personal data of patient and anamnesis data (subjective examination);
- to be able to complete the patient's medical record and informed consent;
- to be able to highlight data of major importance for establishing the diagnosis;
- to distinguish the problems that arise in the communication process and to solve them;
- to be able to perform the clinical examination of the patient (objective examination);
- to be able to determine and argue the necessity of methods of paraclinic examination
- to be able to determine the necessary paraclinical methods of examination according to the clinical case;
- to be able to argue for the necessity of the chosen paraclinical examination depending on the case;
- to be able to interpret radiological data correctly.
- to be able to draw up the patient's treatment plan with odontal injuries (dental caries, odontal lesions of non-carious origin) pulp, apical periodontal disorders and the disorders of marginal periodontium;
- to be able to practice the treatment plan of dental patient;
- to be able to describe the antiseptic substances used in the treatment of odontal lesions (dental caries, non-carious lesions) endodontics and periodontology.
- to be able to apply anesthesia techniques to the treatment of dental decay and odontal lesions of non-carious origin, in pulp disorders, apical periodontitis and marginal periodontitis;
- to be able to provide emergency medical help;
- to be able to apply the isolation systems of the working field (teeth);
- to be able to perform the carious cavity preparation techniques (class I, II, III, IV, V, VI) respecting the Black preparation principles and free design technique;



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- to be able to perform techniques and procedures for preparing teeth with coronary (partial, subtotal and total) lesions for partial or total aesthetic restorations;
- to be able to correctly apply the obturation in the treatment of dental caries of different depth;
- to be able to apply techniques and procedures for filling the caries of class I, II, III, IV, V, VI after Black and partial or total coronary lesions;
- to be able to properly access the endodontic space and create the correct access cavity.
- to be able to execute pulp amputation method, pulp extirpation method.
- to be able to determine the length of root canals by different methods.
- to be able to perform the permeabilization and mechanical processing of root canals through various techniques.
- to be able to properly perform lavage and sterilization of the endodontic space.
- to be able to make the three-dimensional root canals filling by different methods.
- to be able to restore the morpho-functionality teeth - by shaping the walls, occlusal surfaces and incision edges.
- to be able to restore morpho-functional aspect of the teeth with intracanal posts, according to biomechanical principles, of the teeth treated endodontically.
- to be able to adjust anatomically the odontal restorations, as well as finishing and polishing them definitively;
- to be able to solve post-treatment complications.
- to be able to describe the prophylaxis of errors and complications and their application levels;
- to be able to explain to the patient the importance of monitoring the teeth treated endodontically.
- to be able to use practically different whitening systems in dental discolorations;
- to know the medications used in the treatment of periodontal disease (antibiotics, antiseptic biostimulators, etc.), their local and general action;
- be able to achieve occlusogram and selective grinding;
- to possess knowledge about temporary and long-lasting teeth splinting of teeth with periodontal disease;

### ***At the integration level:***

- to ensure the observance of professional ethics and deontology;
- to evaluate the place and role of the practical training in the clinical training of the dental students;
- to assess the type of patient-based data collection (dialogue, inquiry, combined)
- to assess the level of satisfaction of the patient according to various criteria;
- to use the accumulated knowledge and skills for the clinical exposure of the carious process and the appearance of dental lesions of non-carious origin in terms of ethiological factors;



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- to determine the connection between the structure and functions of the hard-dental tissues and the pathogenic mechanism of onset and evolution of the carious process and the dental discolorations;
- to be able to link the physiological processes of dental pulp defense to the mechanisms of inflammatory processes.
- to be able to explain the mechanism of harmful action of the coronary obturation material on the dental pulp;
- to be able to explain post-obtutory pain after the treatment of dental caries;
- to be able to deduce the possible causes of complications after treatment dental caries (through inflammation of the dental pulp) and their resolution.
- to be able to deduce the possible causes of the complications after the biological treatment of pulpitis and to solve the problem correctly.
- to be able to deduce the possible causes of post-obtutory pain in endodontically treated teeth and explain to the patient;
- to be able to deduce possible causes of complications after endodontic treatment;
- to be able to explain the mechanism of action sometimes harmful of root canal filling material;
- to be able to implement the knowledge gained during the practical internship in the research activity;
- to be able to learn to study, which will contribute to the management of the professional path.

#### **IV. PRELIMINARY CONDITIONS AND REQUIREMENTS**

Knowledge of the purpose and tasks of odontotherapy, endodontics and periodontology. Knowledge of the anatomic-histological features of dental hard tissues, pulp, apical periodontal and marginal periodontal complexes, and pathological processes that can occur in these tissues.

Knowledge and observance of ethical-moral and professional norms in patient relations.

Knowledge of the organization of dental care within the dental office. Knowledge of the necessary legal framework and documentation within the dental office (medical card, periodontal status, register of evidence of patients with periodontal disease, record keeping and sterilization control





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records). Knowledge of methods and stages of clinical and paraclinical examinations used in the treatment of odontal coronary lesions. of pulp and periapical lesions and the treatment of diseases of marginal periodontium. Knowing the methods of prophylaxis. Knowledge of principles, and stages of asepsis and antisepsis. Knowledge of the stages of dentist's training for dental workmanship. Knowing the sources of information needed in the daily practice of the dentist.

### V. REFERENCE OBJECTIVES AND CONTENT UNITS

Objectives	Content units
<i>Familiarity of the students with the structure of the dental office and periodontal dental office. The organization and the role of the discipline of practical training in the training of the dentist.</i>	
<ul style="list-style-type: none"><li>• to know the role of the dentist in social life;</li><li>• to define the place and role of the odontotherapy discipline in the dentist's training;</li><li>• to know the place and role of periodontology in the treatment and prophylaxis of general disorders;</li><li>• To know the organization of dental care, especially the odontotherapy component;</li><li>• To know the organization and endowment of the dental office with therapeutic specificity and periodontal specificity;</li><li>• To know the rules of aseptic and</li></ul>	<p>Practical training - purpose and role in the training of future specialist.</p> <p>Schemes for the installation of the dental equipment, instruments, consumables.</p> <p>Guides, sanitary-epidemiological instructions - basic aseptic and antiseptic rules.</p> <p>Requirements for the organization and organization of the dental office.</p> <p>Rules of personal hygiene, ethics and deontology. The appearance of the dentist in the medical institution.</p> <p>Organizing the periodontological assistance, the periodontology cabinet, the instrument and the equipment.</p> <p>Regulatory normative acts of the dental</p>



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<b>Objectives</b>	<b>Content units</b>
<p>antiseptic dentistry;</p> <ul style="list-style-type: none"> <li>To be familiar with the medical documentation in the dental office.</li> </ul>	<p>service and the service of patient of periodontal disease.</p>
<p><b><i>Clinical examination of the patient with pathological affections of hard dental tissues and pulp. Subjective and objective examination.</i></b></p>	
<ul style="list-style-type: none"> <li>to be familiar with deontological and ethical principles in examination of the patients;</li> <li>to know the stages of the anamnesis and its importance in the examination of the patients;</li> <li>to know the essential purpose of the clinical examination and its stages;</li> <li>to be able to evaluate the instruments and devices for the objective examination of the dental patient;</li> <li>to understand the importance of paraclinical exploration in establishing the diagnosis;</li> <li>to know the types of laboratory and radiological paraclinical investigations;</li> <li>to know the indications for selecting the type of paraclinical investigations, depending on the case, its advantages</li> </ul>	<p>Deontological and medical ethical conditions in patient examination.</p> <p>The main purpose of the clinical examination.</p> <p>Stages of clinical examination of patients with dental, pulp tissue disorders and periodontics.</p> <p>Subjective examination.</p> <p>Patient clinical complains and their significance. The significance of the history of affection and other associated diseases.</p> <p>The exo and endo-buccal objective examination.</p> <p>Evaluation of the instrument for the patient's objective examination.</p> <p>Para-regional and general paraclinical explorations used in the diagnosis of dental and pulp lesions. Their purpose and role in the specifying of diagnosis.</p>



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<b>Objectives</b>	<b>Content units</b>
<p>and disadvantages;</p> <ul style="list-style-type: none"> <li>to be able to interpret the data of the paraclinical investigations and their characterization.</li> </ul>	<p>Laboratory examinations. Indications and clinical significance.</p> <p>Allergic examination. Characteristic.</p> <p>Radiological examination. Principles and types of radiological examination.</p> <p>Indications of use.</p>
<p><b><i>Processes and techniques for the preparation of carious cavities in the treatment of dental caries and non-carious defects.</i></b></p> <p><b><i>Creating the endodontic access cavity in dental pulp disorders. Mechanical and chemical preparation of root canals.</i></b></p>	
<ul style="list-style-type: none"> <li>to be able practically to perform the patient's treatment plan with odontal, dental pulp lesions and periodontal lesions;</li> <li>to possess the techniques for the application of anesthesia in the treatment of dental caries, odontal lesions of non-carious origin, dental pulp diseases and periapical diseases.</li> <li>to possess the skills for applying the isolation systems (rubber-dam) of the working field (teeth);</li> <li>to know the carious cavity preparation techniques (Class I, II, III, IV, V, VI) following the principles of preparation for Black and free design;</li> <li>to know the techniques and procedures</li> </ul>	<p>Rubber dam system- components, types and application techniques</p> <p>Preparation of carious cavities and odontal lesions of non-carious origin – principles of preparation by Black and its free design, tools, burs, accessories.</p> <p>Lavage of dental wound (solutions, consecutivity, exhibition, drying procedures)</p> <p>Preparation of endodontic access cavities- principles, tools, mills, accessories.</p> <p>Determination of working length - methods, instrumentation, devices.</p> <p>Creating of the patency - techniques, remedies, instrumentation, devices.</p> <p>Mechanical preparation of root canals -</p>



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<b>Objectives</b>	<b>Content units</b>
<p>for preparing teeth with coronary (partial, subtotal and total) coronary lesions for partial or total aesthetic restorations;</p> <ul style="list-style-type: none"> <li>• to properly perform the dental wound lavage;</li> <li>• to possess techniques for the treatment of pulp disorders –endodontic access cavity formation, crown pulp amputation, spotting and enlargement of entry to root canal system, removal, determination of working length, irrigation, drying and filling of root canals.</li> </ul>	<p>techniques, instrumentation, devices.</p> <p>Irrigation of the endodontic space (solutions, consecutivity, exhibition, procedures of drying)</p>

***Obturation of the carious cavities and defects of non-carious origin (materials, instruments, techniques and procedures, adjustment, finishing and polishing of the fillings)***

<ul style="list-style-type: none"> <li>• to know the classification of obturation materials (curative, insulating, temporary and permanent);</li> <li>• to know the adhesive systems used in the treatment of dental caries and odontal lesions of non –carious origin;</li> <li>•to know and understand the properties and mechanism of interaction of the adhesive system with hard dental tissues and obturation material;</li> <li>to know techniques of polymerization of adhesive systems and photopolymerizable composite materials;</li> <li>• to know and understand the mechanism of action of obturation materials on hard dental</li> </ul>	<p>Filling materials - classification, physico-chemical properties, requirements, advantages, disadvantages. Adhesive systems - classification, generations, indicationsa for pplication, properties, interaction of adhesive systems with hard dental tissues, hybrid layer.</p> <p>Interaction of obturation materials with hard dental tissues -polymerase mechanism (chemical, mechanical), action on dental pulp, possible complications.</p> <p>Polymerization, techniques and procedures, length of</p>
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<b>Objectives</b>	<b>Content units</b>
tissues and dental pulp; <ul style="list-style-type: none"><li>• to distinguish, occlusion elements, as basic elements in direct dental restorations;</li><li>• to know the techniques and procedures, tools and materials for adjusting, finishing and polishing the permanent dental restorations;</li><li>• to know the possible errors and complications during and after odontal treatments;</li></ul>	wave, curing time, curing lamp, characteristics. Occlusology - modeling elements macromorphological structure of the anatomical structures of tooth. Adjustment techniques and procedures - tools, finishing / restoration adjustments, polishing Complications - Immediate and late, solution for solving them.

***Obturation of endodontic space (materials, instruments, techniques and procedures)***

<ul style="list-style-type: none"><li>• to be know the classification of root canal filling material (provisional and lasting);</li><li>• to know and understand the properties of root canal filling materials;</li><li>• to know and understand the mechanism of action of root canal filling materials on hard dental tissues and periapical tissues.</li><li>• to know the possible errors and complications during and after endodontic treatment;</li></ul>	Classification, physio-chemical properties of the root canal-filling provisional and permanent materials. Properties, viscosity, volumetric properties, biocompatibility. Interaction of root canal filling materials with dental hard tissue - fixing mechanism (chemical, mechanical), possible complications. Complications in endodontics - immediate and late, methods of solving.
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***Local and general treatment of periodontal disease. Procedures and techniques, instrumentation and equipment, used medical remedies.***



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<ul style="list-style-type: none"><li>• to know the medicinal remedies used in the treatment of periodontal disease (antibiotics, antiseptics, biostimulators, etc.), their local and general action;</li><li>• to know techniques and procedures for removing dental deposits (manual, ultrasonic, combined and professional brushing, irrigation, etc.);</li><li>• to know the tools and devices used to remove dental deposits;</li></ul>	<p>Antiseptic substances, antibiotics, biostimulators, properties, concentration, mechanism of action at local and general level.</p> <p>Technique of manual, ultrasonic, combined, airflow and professional brushing.</p> <p>Chutes, sculptors, ultrasonic devices, brushes, brushes for professional brushing, irrigation substances</p> <p>Temporary reinforcement materials: glass fiber strips, metallic wire (retainer), semi-liquid composite materials, acrylic crowns.</p>
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## VI. SPECIFIC PROFESSIONAL COMEPTENCIES (PC) AND TRANSVERSAL (TC) AND FINALITIES OF THE STUDY

### PROFESSIONAL COMPETENCES (SPECIFIC) (PC)

**CP1.** Knowledge, understanding and use of specific dental language in odontotherapy, endodontics and periodontology. Knowledge and understanding of the organization of the dental office with therapeutic and periodontological specificity. Promoting the principles of tolerance and compassion towards patients. Knowledge of the legislative and normative framework in the field, knowledge of the rights and obligations of the medical doctor.

**CP2.** Explanation of the principles of treatment of dental caries and odontal lesions of non-carious origin, explanation and interpretation of processes occurring in hard dental tissues affected by dental caries and lesions of non-carious origin (softness of tissues, appearance of interglobular dentine, deposition of tertiary dentine (protection) To illustrate the theoretical basics of anatomy and physiology of superficial and profound supporting marginal periodontium, general principles in the examination of patients, analysis and interpretation of clinical and paraclinical data ;

**CP3.** Completing the medical records of patients with periodontal disease, performing the clinical examination and elaborating the indications for the type of paraclinical examination with their



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argumentation. Establishing the diagnosis and treatment plan. Elaboration of the algorithm for data collection and work with the patients in the periodontology cabinet.

**CP4.** Analysis of laboratory data (bacteriological, clinical and biochemical) and their description. Analysis of X-ray (OPG, RVG), evaluation and description of anatomical formations based on conical fascicular tomography.

**CP5.** Knowledge of methods of filling the carious cavities, root canals - instruments, techniques, selection of the filling materials according to the clinical situation. Knowledge of modern conservative principles and techniques for the maintenance of total or partial vitality of pulp in the case of a reversible pulp disease. Knowledge of endodontic principles and techniques applied in case of an irreversible pulp disease.

**CP6.** Description of the notion and types of prophylaxis, as well as their application levels (individual, group, society). Evaluation of sterilization control methods for materials and instruments used in periodontal treatment. Evaluation of dispensary evidence for patients with periodontal disease.

### **TRANSVERSAL COMPETENCES (CT)**

**CT1:** Application of professional assessment standards, professional ethics, and applicable legislation. Promoting logical reasoning, practical applicability, assessment and self-assessment in decision-making.

**CT2:** Improving the capacity of decisional autonomy, forming of personal attitude in the clinical thinking process. Ability to social interaction, group work activity with different roles. Performing activities and exercising the roles specific to team work within the dental office. Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect for others, empathy, altruism and continuous improvement of their own activities;

**CT3:** Systematically assessing skills, roles and personal expectations, applying self-assessments to learned processes, acquired skills and training needs, efficient use of language skills, knowledge of informational technologies, research and communication skills, to deliver quality services and adapting to the dynamics of policy requirements in health and for personal and professional development.

### **STUDY FINALS**

At the end of the course, the student will be able to:



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- To know the particularities of the organization of the dental service, of the dental office with therapeutically and periodontal specificity- endowment, the requirements for the equipment 's location, the necessary instrumentation.
- Understand the principles of the structure of restorative odontology and clinical endodontics.
- To understand the relationship: oral cavity microorganisms → softness of dental tissues → carious process → lesion of non-carious origin → occurrence of carious lesion or lesion of non-carious origin → propagation to the endodontic space → initiation of the inflammatory process in the pulp → spread of the inflammatory process in the pulp → irreversible process → periapical affection.
- To know the classification of carious processes and lesions of non-carious origin (topographic, after Black, clinical).
- To know the principles of treatment of dental caries and non-carious lesions.
- To know the peculiarities and principles of preparation of carious cavities and a lesions of non-carious origin after Black and free disain (instruments, burs, consecutiveness of the stages).
- To know and understand the particularities of the treatment of dental wounds, the interaction of hard dental tissues with antiseptic solutions (remedies, consecutivity, drying the carious cavity, possible complications and their solving.
- To be acquainted with the techniques of partial and total etching of the hard-dental tissues
- To know the adhesive systems (classification, properties), processes and techniques application and polymerization, the mechanism of interaction between the dental tissues and the adhesive system (the hybrid layer).
- To know the obturation materials (curative, isolating and permanent, physio-chemical properties, interaction with hard dental tissues and adhesive system.
- To know and to apply the techniques of filling the carious cavities (application of the material layer by layer or in one-layer technique) and repair of defects as a result of lesions of non-carious origin, modeling of anatomical elements (cusps, incisal edges and contact points).
- To know and apply the techniques of polymerization of the filling material (direct and indirect).
- To know and perform the adjustment, smoothing and polishing processes for dental restorations.
- To be competent to use the knowledge and methodology of odontology restorative in the ability to explain the mechanism of some physiological processes or





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pathological with the occurrence of post-treatment complications.

- To know the classification of pulp disorders.
- To know the evolution and prognosis of dental pulp disorders.
- To know the classification of periapical diseases.
- To know the classification of periodontal disease.
- To know the principles of treatment of pulp disorders.
- To know and understand the modern methods of patency creation, mechanical processing of root canals - advantages and disadvantages.
- To know the methodology of root canal obturation through various techniques (classical, condensation, injection).
- To know how to appreciate errors in avoiding complications from endodontic treatment.
- To know root canal filling materials (curative and permanent), physico-chemical properties, interaction with hard dental tissues and adhesive system.
- To know and apply the restoration techniques according to the biomechanical principles of the endodontic post-treatment tooth.
- To know the instrumentation and devices, techniques și procedures of removing calculus deposits (manual scaling, ultrasonic, mixt and professional brushing, irrigation)
- To know medicamentous remedies used in the treatment of periodontal disease (antibiotics, antiseptics, biostimulators) local and general action.
- To be able to implement the knowledge gained in the research activity;
- To be competent to analyze critically and with confidence the scientific information obtained using the new information and communication technologies.
- To know the role and functions of the dentist in the organization of healthcare
  - To promote healthy lifestyle and health education through speeches, papers, presentations, articles in specialized journals, etc.



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**VII. THE STUDENT’S INDIVIDUAL WORK**

Nr.	The expected product	Implementation Strategies	Evaluation criterias	Deadline
1.	Working with information sources	Reading the lectures and the material in the handbook to the Department of Odontotherapy and Endodontics (pulp diseases). Reflection on the topics studied. Know and select additional information sources. Wording of generalizations and conclusions regarding the importance of the subject.	The ability to extract the essentials. Interpretative skills. The ability to analyze and communicate the material accumulated on its own.	During the practical training
2.	Solving the situational problems	Solving case problems, arguing the conclusions at the end of each day. Verification of the finalities and appreciation of their achievement. Selection of additional information, using electronic addresses and additional bibliography.	The quality of problem solving and clinical case, the ability to formulate and interpret clinical and paraclinical data. Ability to analyze selected information from national and international professional websites.	During the practical training
3.	<p><b>Evaluation of perception (basic knowledge) in clinical and paraclinical examination of patients.</b></p> <p>Each student will complete the patient's medical records, systemize the stages of the clinical examination and collect the anamnesis. Establish indications for paraclinical investigations, arguing their need.</p>			
3.1.	Data recording and patient history	Working with the medical record and systematisation of stages of collection and clinical examination.	Assess the correctness and succession of the analysis.	During the practical training
3.2.	Appreciation of radiographic	The student must know the particularities of the radiographic	Assessing the accuracy of the information described by the	During the



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Nr.	The expected product	Implementation Strategies	Evaluation criterias	Deadline
	examination guidelines.	examination and argue the need to indicate each type of radiographic examination.	student.	practical training
3.3.	Completing the Registry for Practical Training	Students will complete the register, collect and record the subjective, objective - clinical and paraclinical examinations.	Evaluating the quality of the selected material, the design of the project and the ability to reproduce the information.	During the practical training

### VIII. METHODOLOGICAL EVALUATION SUGGESTIONS

#### **Methods of assessment** *(including an indication of how to calculate the final grade)*

- Assessment of practical internships is done both during the practice period and at the completion of this activity.
- The current evaluation during the practice is done by the practice manager and the representative of the practice-based unit, taking into account the student's participation in the scheduled works and the training of the implementation or coordination skills of the operations included in the practice program.
- In the final assessment, practical internships are appreciated with marks by a specially created committee, taking into account the coordinator's reference to the trainee's practice unit, the results of the individual task, the appreciation of the practice manager. Criteria for the assessment of the practical training are set by the Central Methodological Council.
- The scores obtained for the internship are included in the results of the respective examination session and are taken into account when calculating the average of the student's academic achievement.
- The assessment of the bachelor's practice is done by the trainee manager practically depending on the student's activity in the process of elaborating the project and the characteristic given by the leadership of the practice unit.
- Students who have not completed the curriculum in full and have not obtained credits for all compulsory / optional course modules and modules and internships are not allowed to support the evidence of the bachelor's examination and the bachelor's project / thesis.



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Final: The course ends with exam. The note at the exam based on the note given by the direct manager at the clinical base, where the student spent the practical training and the mark obtained at the exam. Notes 5 and above are equivalent to "attested", which will be passed to the notes book. The average annual score will be expressed in numbers according to the scoring scale indicated in the table.

### How to round up the grades at the evaluation steps

Intermediate note grid (annual average, grades from the exam stages)	National scoring system	Equivalent ECTS
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,00	6	
6,01-6,50	6,5	D
6,51-7,00	7	
7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	B
8,51-8,00	9	
9,01-9,50	9,5	A
9,51-10,0	10	

*Note: The failure to present the exam without good reason is recorded as "absent" and is equivalent to 0 (zero). The student is entitled to 2 repeated claims of the unsuccessful exam.*

### IX. RECOMMENDED BIBLIOGRAPHY

#### A. Obligatory:

1. Nicolaiciuc, Valentina. Practical guide: clinical practical lessons for the 4th year of study 7th semester: subject: Apical periodontitis. Non-carious disease / V. Nicolaiciuc; State University of Medicine and Pharmacy "Nicolae Testemitanu", the Department of Therapeutical Dentistry. - Chisinau: Medicina, 2012
2. Nicolaiciuc, Valentina. Dental pulpitis and elements of endodontic therapy: course of lectures for the 3rd year of study the 6th semester / V. Nicolaiciuc; Public Institution the



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Therapeutical Dentistry. - Chişinău : Medicina, 2013

*B. Additional:*

1. Cohen. Pathways of the Pulp Expert Consult 11. Edition 2015;
2. Fuhrmann, Andreas. Dental radiology: a contemporary guide to dental radiology for students and practitioners / Andreas Furmann. - Stuttgart: Thieme, 2015
3. Nisha Garg, Amit Garg. Textbook of Endodontics. Jaypee Brothers Medical Publishers LTD
4. Theodore M. Roberson, Harald O. Heymann, Edward J. Swift. Operative Dentistry. Fourth Edition. Mosby 2002.