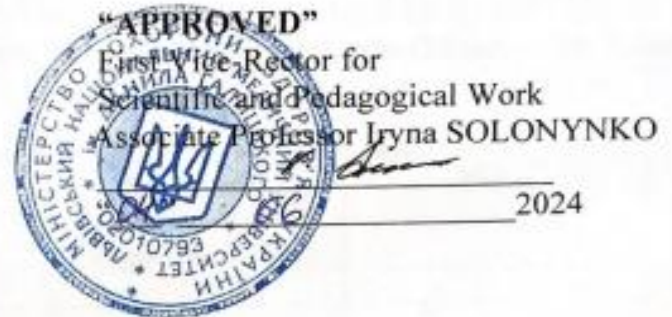


DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of Therapeutic Dentistry



**SYLLABUS
of the subject**

SD 1.55.

" CURRENT ISSUES OF ENDODONTICS"

**Second (master's) level of higher education
Field of Knowledge 22 "Healthcare"
Specialty 221 "Dentistry"
Faculty, year: Dentistry, 4th year**

Discussed and approved at the
Methodical Meeting of the Department of
Therapeutic Dentistry
Minutes No. 4, dated 16 April 2024
Head of the Department

Prof. Volodymyr ZUBACHYK

Certified by the Specialized Scientific and
Methodical Board for Dental Subjects
Minutes No. 3, dated 17 April 2024
Chair of the Profile Methodical
Board

Prof. Volodymyr ZUBACHYK

The syllabus of the subject «Actual issues of endodontics » is developed at the Department of Therapeutic Dentistry of Danylo Halytsky Lviv National Medical University for the 4st year students of the Dentistry Faculty in the Specialty 221 Dentistry.

The syllabus is discussed and approved at the Methodical Meeting of the Department of Therapeutic Dentistry (Minutes No. 4 dated 16 April 2024) and certified by the Specialized Scientific and Methodical Board for Dental Subjects (Minutes No. 3 dated 17 April 2024)

Changes and additions to the syllabus in the 2023-2024 academic year:

№	Content of changes (additions)	Minutes of the meeting of the Department, date	Notes

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Chair of the Department of Therapeutic Dentistry
DMSci, Prof. Zubachyk, V.M.

Signature

INTRODUCTION

PROGRAM OF STUDY OF ACADEMIC DISCIPLINE BY CHOOSING "ACTUAL ISSUES OF ENDODONTICS".

in accordance with the Standard of Higher Education of Ukraine of the second (master's) level

fields of knowledge 22 "Health care"

specialty 221 "Dentistry"

Master of Dentistry educational program

Description of the academic discipline (abstract)

Therapeutic dentistry is a discipline whose methods are aimed at preserving the health of teeth, organs and tissues of the oral cavity, restoring their anatomical form and physiological function, and preventing dental diseases by therapeutic methods. In accordance with the sample curriculum of the undergraduate training of specialists of the second (master's) level of higher education in the specialty 221 "Dentistry", the study of the academic discipline under the choice "Actual issues of endodontics" is carried out by students in the IV year of study

The structure of the academic discipline	Number of credits, hours, of which:			Year of study semester	Type of control
	In total	Auditory			
		Lectures (hours)	practical classes (hours)		
Name of discipline: Therapeutic dentistry Content modules 1	2 credits/ 60 hours	-	30	30	4th year, 8th semester Test

The subject of study of the educational discipline by choice "Actual issues of endodontics" is the question of etiology, pathogenesis, clinical manifestations of dental pulp and periodontal disease, methods of their treatment, as well as national and individual preventive measures to prevent the most common diseases such as caries and its complications.

Interdisciplinary connections: the study is based on previously acquired knowledge of human anatomy, histology, cytology and embryology, pathological anatomy, biological chemistry, microbiology, virology and immunology, clinical pharmacology, pathomorphology, pathophysiology, internal medicine, dermatology, venereology, propaedeutics of therapeutic dentistry and integrates with these disciplines.

1. The purpose and tasks of the educational discipline

1.1. The purpose of teaching the subject of choice "Actual issues of endodontics" is to prepare a dentist who is able to diagnose and treat dental diseases.

1.2. The main tasks of studying the discipline by choosing "Current issues of endodontics" are the ability to conduct an examination of a dental patient, study the leading syndromes and symptoms, justify and formulate a preliminary diagnosis; the ability to analyze the results of the patient's examination and carry out differential diagnosis, to make a final diagnosis of the main diseases, to determine the nature and principles of treatment in the clinic of therapeutic dentistry, to identify different clinical variants and complications of the most common diseases, to conduct dispensation of patients.

1.3 Competences and learning outcomes, the formation of which contributes to the discipline (interrelationship with the normative content of the training of higher education applicants, formulated in terms of learning outcomes in the Standard).

According to the requirements of the "Standard of Higher Education of Ukraine", the discipline "Therapeutic Dentistry" ensures that students acquire the following competencies:

□ integral: the ability to solve complex tasks and problems in the field of health care in the specialty "Stomatology" in the process of education and future professional activity.

General:

1. Ability to abstract thinking, analysis and synthesis.
2. Knowledge and understanding of the subject area and understanding of professional activity.
3. Ability to apply knowledge in practical activities.
4. Ability to communicate in the national language both orally and in writing.
5. Ability to communicate in English.
6. Skills in using information and communication technologies.
7. Ability to search, process and analyze information from various sources.
8. Ability to adapt and act in a new situation.
9. Ability to identify, pose and solve problems.
10. The ability to be critical and self-critical.
11. Ability to work in a team.
12. Efforts to preserve the environment.
13. The ability to act socially responsibly and consciously.
14. The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.
15. The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, to use various types and forms of motor activities for active recreation and leading a healthy lifestyle

- professionals:

1. Ability to collect medical information about the patient and analyze clinical data.
2. Ability to interpret the results of laboratory and instrumental research.
3. Ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions.
4. Ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial area.
5. Ability to design the process of providing medical care: to determine the approaches, plan, types and principles of treatment of diseases of the organs and tissues of the oral cavity and maxillofacial area.
6. The ability to determine a rational regimen of work, rest, and diet in patients in the treatment of diseases of the organs and tissues of the oral cavity and maxillofacial region.
7. The ability to determine the management tactics of patients with diseases of the organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases.
8. Ability to perform medical and dental manipulations.
9. The ability to treat the main diseases of the organs and tissues of the oral cavity and maxillofacial area.
10. Ability to organize and carry out medical evacuation measures.
11. Ability to determine tactics, methods and provision of emergency medical assistance.
12. Ability to organize and conduct a screening examination in dentistry.
13. The ability to assess the impact of the environment on the state of health of the population (individual, family, population).
14. Ability to maintain normative medical documentation.
15. Processing of state, social and medical information.
16. Ability to organize and carry out rehabilitation measures and care for patients with diseases of the oral cavity and ASHL.
17. The ability to legally support one's own professional activity.
18. The ability to provide pre-medical care according to the protocols of tactical medicine.

	GC1	GC2	GC3	GC4	GC5	GC6	GC7	GC8	GC9	GC10	GC11	GC12	GC13	GC14	GC15
SD1.55		+	+			+	+		+						

	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12	PC13	PC14	PC15	PC17	PC18
SD 1.55	+	+	+	+	+			+	+			+		+			+

Matrix of competences

№	Competence	Knowledge	Skill	Communication	Autonomy and responsibility
1.	Ability to abstract thinking, analysis and synthesis.	To know the current trends in the development of the industry and the indicators characterizing them	Be able to analyze professional information, make informed decisions, acquire up-to-date knowledge	Establish appropriate connections to achieve goals	To be responsible for the timely acquisition of modern knowledge
2.	Knowledge and understanding of the subject area and understanding of professional activity	To know the peculiarities of the professional activity of a dentist	To be able to carry out professional activities that require updating and integration of knowledge	Form a communication strategy in professional activities	Be responsible for continuous professional development with a high level of autonomy
3.	Ability to apply knowledge in practical situations	Know the methods of implementing knowledge in solving practical tasks	Be able to use professional knowledge to solve practical problems	To establish connections with subjects of practical activity	Be responsible for the validity of the decisions made
4.	Ability to communicate in the national language both orally and in writing. Ability to communicate in a second language	Know the state language, including the professional direction. Possess a foreign language at a level sufficient for professional communication	Be able to use the state language and a foreign language for professional activities and communication	Form a communication strategy in professional activities	Be responsible for continuous professional development with a high level of autonomy
5.	Ability to communicate in English	Have English language skills at a level sufficient for professional communication	Be able to use the English language for professional activities and communication	Form a communication strategy in professional activities	Be responsible for continuous development of professional knowledge and skills
6.	Skills in using information and communication		To be able to use information and communication	Use information technologies in professional	Be responsible for continuous development of

	technologies		technologies in a professional field that requires it оновлення та інтеграції знань	activities	professional knowledge and skills
7	Ability to search, process and analyze information from various sources	Have the necessary knowledge in the field of information technologies used in professional activities	To be able to use information technologies in the professional field to find, process and analyze new information from various sources	Use information technologies in professional activities	Be responsible for continuous development of professional knowledge and skills
8.	Ability to adapt and act in a new situation,	Know the methods of implementing knowledge in solving practical tasks	To be able to use professional knowledge for adaptation and actions in a new situation	To establish connections with subjects of practical activity	To be responsible for the quality of the performance of professional tasks in a new situation
9.	Ability to identify, pose and solve problems	Know the methods of implementing knowledge in identifying, setting and solving problems of professional activity	Know the methods of implementing knowledge in identifying, setting and solving problems of professional activity	To establish relations with subjects of practical activity in order to identify, pose and solve problems of professional activity	To be responsible for the validity of the decisions made regarding the resolution of professional activity problems
10.	The ability to be critical and self-critical	Know the methods of implementing knowledge in choosing a communication strategy with patients and colleagues	Be able to use knowledge to choose a communication strategy with patients and colleagues	Be able to use knowledge to choose a communication strategy with patients and colleagues	Be responsible for continuous professional development with a high level of autonomy
11	Ability to work in a team	Know the ways of collective interaction while working in a team	To be able to use knowledge to choose a communication strategy during collective interaction	Form a communication strategy in professional activities	Be responsible for continuous professional development
12	The desire to preserve the environment	Ability to assess the state of the environment	Be able to analyze environmental quality indicators	To ensure high-quality performance of professional tasks	To bear personal responsibility for compliance with environmental

				in conditions of environmental protection	protection rules when performing professional tasks
13	The ability to act socially responsibly and civically	Know your social and public rights and responsibilities	To form one's civic consciousness, to be able to act in accordance with it	The ability to convey one's public and social position	To bear responsibility for one's public position and activities
14	The ability to realize one's rights and responsibilities as a member of society, to be aware of the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine	Know your social and civil rights and responsibilities	To form one's civic consciousness, to be able to act in accordance with it	The ability to convey one's public and social position	To bear responsibility for one's public position and legal activity
15	The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation	The ability to assess the state of the moral and cultural environment, the state of nature in the development of society	To be able to analyze indicators of the quality of the surrounding, cultural environment	To ensure high-quality performance of professional tasks in conditions of environmental preservation in the general system of knowledge about society	To bear personal responsibility for compliance with environmental protection rules when performing professional tasks

	and leading a healthy lifestyle				
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	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	HE	E	E	E
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
SD	+	+	+	+	+			+		+	+		+						+	+	+	+		
1.55																								

Program learning outcomes determined by the standard of higher education of the specialty:

1. Identify and identify leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data from the anamnesis of 12 patients, data from the patient's examination, knowledge about the person, his organs and systems, establish a probable nosological or syndromic preliminary clinical diagnosis of a dental disease (according to list 2).
2. Collect information about the patient's general condition, evaluate the patient's psychomotor and physical development, the condition of the maxillofacial organs, based on the results of laboratory and instrumental studies, evaluate information about the diagnosis (according to list 5).
3. Prescribe and analyze additional (mandatory and optional) methods of examination (laboratory, X-ray, functional and/or instrumental) according to list 5, of patients with diseases of organs and tissues of the oral cavity and maxillofacial region for differential diagnosis of diseases (according to list 2).
4. Determine the final clinical diagnosis in compliance with the relevant ethical and legal norms, by making a reasoned decision and logical analysis of the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis under the control of the head physician in the conditions of a medical institution (according to list 2.1).
5. Establish a diagnosis of urgent conditions under any circumstances (at home, on the street, in a medical institution), in conditions of emergency, martial law, lack of information and limited time (according to list 4)
6. Plan and implement dental disease prevention measures among the population to prevent the spread of dental diseases.
7. Analyze the epidemiological situation and carry out measures of mass and individual, general and local drug and non-drug prevention of dental diseases.
8. Determine the approach, plan, type and principle of treatment of dental disease (according to list 2) by making a reasoned decision according to existing algorithms and standard schemes.
9. To determine the nature of the regime of work, rest and the necessary diet in the treatment of dental diseases (according to list 2) on the basis of a preliminary or final clinical diagnosis by making a reasoned decision according to existing algorithms and standard schemes.

10. Determine the tactics of managing a dental patient with somatic pathology (according to list 3) by making a reasoned decision according to existing algorithms and standard schemes.
11. Carry out treatment of basic dental diseases according to existing algorithms and standard schemes under the control of the head physician in the conditions of a medical institution (according to list 2.1).
12. To organize medical evacuation measures among the population, military personnel, in emergency situations, including martial law, during the expanded stages of medical evacuation, taking into account the existing system of medical evacuation support.
13. Determine the tactics of providing emergency medical care, using the recommended algorithms, under any circumstances based on the diagnosis of an emergency condition in limited time (according to list 4).
14. Analyze and evaluate government, social and medical information using standard approaches and computer information technologies.
15. Assess the impact of the environment on the state of health of the population in the conditions of a medical institution according to standard methods.
16. To form goals and determine the structure of personal activity based on the result of the analysis of certain social and personal needs.
17. Follow a healthy lifestyle, use self-regulation and self-control techniques.
18. To be aware of and be guided in one's activities by civil rights, freedoms and duties, to raise the general educational cultural level.
19. To comply with the requirements of ethics, bioethics and deontology in their professional activities.
20. To organize the necessary level of individual safety (own and the persons one cares about) in case of occurrence of typical dangerous situations in the individual field of activity.
21. Perform medical manipulations on the basis of a preliminary and/or final clinical diagnosis (according to lists 2, 2.1) for different segments of the population and in different conditions (according to list 6).
22. Perform medical dental manipulations on the basis of a preliminary and/or final clinical diagnosis (according to lists 2, 2.1) for different segments of the population and in different conditions (according to list 7).
23. Perform emergency medical care manipulations using standard schemes under any circumstances based on the diagnosis of an emergency (according to list 4) in limited time conditions (according to list 6,7)

Integral competence::

*the ability to solve complex tasks and problems in the field of health care in the specialty "Stomatology"
in the process of education and professional activity*

№ 3/II	Competence	Knowledge	Skill	Communication	Autonomy and responsibility
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Special competences::

1.	Autonomy and responsibility	Principles and sequence of examination of a dental patient with odontopathology, periodontal diseases, organs and mucous membrane of the oral cavity.	Assess the general, psychomotor and physical development of the patient, the state of the maxillofacial organs. To analyze the need to prescribe certain methods of examination of a dental patient, their informativeness and significance in the diagnosis of odontopathology, periodontal diseases and the mucous membrane of the oral cavity. Assess the condition of the teeth, periodontium, organs and mucous membrane of the oral cavity and changes in them. Interpret the results of the main clinical and additional examination methods for various odontological diseases, diseases of the periodontium and the mucous membrane of the oral cavity.	Demonstrate mastery of the moral and deontological principles of a medical specialist and the principles of professional subordination in the clinic of therapeutic stomatology when communicating with the patient, the patient's relatives, colleagues.	To be responsible for observing the principles of examination of the dental patient
2.	Evaluation of the results of laboratory and instrumental studies (according to list 5)*	Biochemical composition of saliva, oral fluid, their biophysical properties (pH, remineralizing potential, etc.). Essence, method of enamel resistance test, electroodontodiagnostics. Indications for X-ray diagnostics, luminescent, transillumination diagnostics, computer tomography. Hygienic and periodontal indices. Normal values of basic human constants (clinical, biochemical	Evaluate and interpret the results of biochemical, biophysical, microbiological studies of saliva and oral fluid, pH and remineralizing properties. Conduct TER-test, EOD and interpret the results. Prescribe according to indications and evaluate the results of x-ray diagnostics, luminescent, transillumination diagnostics, computer tomography. Determine hygienic and periodontal indices, evaluate their results. Evaluate changes in clinical, immunological,	Be able to reasonably explain changes in the state of teeth, periodontium, organs and mucous membrane of the oral cavity, saliva (oral fluid), blood, urine to the	To be responsible for the correctness and accuracy of assessment of laboratory and instrumental research methods

	<p>analysis of blood, urine, etc.) and changes in them during inflammatory processes, allergic conditions, etc. Cytological and microbiological examination of the organs and tissues of the dental and jaw apparatus, oral fluid, swabs from the ENT, periodontium.</p> <p>Methods of determining the length of the root canal.</p>	<p>biochemical blood, urine, etc. Interpret the results of cytological and histological studies in various pathological conditions.</p> <p>Determine the length of the root canal by various methods.</p>	<p>patient, the patient's relatives, when discussing with colleagues.</p>	
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3.	Establishing a clinical diagnosis of a dental disease (according to list 2.1)*	Clinical manifestations (complaints, medical history, results of objective examination) of various forms of major odontological diseases (caries and non-carious lesions, pulpitis, periodontitis), periodontal diseases.	Identify and identify leading clinical symptoms and syndromes (according to list 1)*. According to standard methods, using a logical analysis of previously obtained data of subjective and objective examination, additional methods, carried out differential diagnosis, establish a clinical diagnosis of dental disease. Classify carious and non-carious lesions, endodontic (pulp and periodontal) diseases, periodontal diseases, according to the course, depth of the lesion, clinical and morphological forms.	Be able to substantiate the clinical diagnosis of a dental disease for a patient, when discussing with colleagues.	To be responsible for the probability and accuracy of diagnosis
4.	Diagnosis of emergency conditions and determination of tactics and provision of emergency medical assistance	Know the clinical manifestations of emergency conditions at a dental treatment appointment and under any circumstances (at home, on the street, in a medical institution); tactics, algorithms for providing emergency medical care	Highlight and identify leading clinical symptoms of emergency conditions (according to list 4)*. Perform medical manipulations for the provision of emergency medical care, using standard schemes under any circumstances under limited time (according to list 6)*.	Analyze the causes of the patient's emergency condition at the dental appointment and under any circumstances	To be responsible for the timely diagnosis of emergency conditions and the correct provision of emergency medical assistance
5.	Treatment of the main odontological diseases, periodontal diseases (according to list 2.1)*	Stages of treatment of various forms of caries and its complications (pulpitis and periodontitis). Composition, properties, indications for the use of filling materials for permanent and temporary fillings, therapeutic pads, filling of root canals (sealers and fillers) and methods of their application.	Prescribe and carry out treatment of the main dental diseases (caries and non-carious lesions of the teeth, pulpitis, periodontitis, gingivitis, periodontitis) according to existing algorithms and standard schemes in accordance with the list of dental manipulations (according to list 7)*	Be able to justify the choice of treatment methods for the main dental diseases for the patient and when discussing with colleagues and relatives of the patient.	To be responsible for the selection and correct execution of individual dental manipulations in the treatment of major dental diseases
6.	Planning and carrying out measures for the	Schemes of mass and individual prevention of odontological diseases, periodontal diseases, organs and mucous membrane of the oral cavity	Analyze the epidemiological situation and carry out measures of mass and individual, general and local drug and non-drug prevention of dental diseases	The ability to organize measures for mass, individual	To be responsible for the timeliness and effectiveness of preventive

	prevention of dental diseases			prevention of dental diseases	measures
7.	Determination of the management tactics of a dental patient with somatic pathology	Peculiarities of the course and treatment of the main dental diseases with physiological conditions and somatic diseases that require special patient management tactics. Peculiarities of analgesia in patients with somatic pathology.	Assess the patient's condition during pregnancy, diseases of the blood and hematopoietic organs, cardiovascular diseases, mental disorders, diseases of the respiratory system and mediastinum, endocrine, musculoskeletal system and connective tissue, infectious and parasitic diseases. Make a reasoned decision regarding the choice of method of analgesia and treatment of the main dental disease in this situation, prescription of medicinal products, etc.	Be able to justify the choice of treatment methods for basic dental diseases for patients in a special physiological state and with somatic pathology and when discussing with colleagues and relatives of the patient.	To be responsible for the safety of the performed manipulations during the treatment of a dental patient in a special physiological state and with somatic pathology
8.	Maintenance of medical documentation	The list of necessary medical documentation for a therapeutic appointment (in accordance with the order of the Ministry of Health No. 110 dated February 14, 2012)	Fill out the main forms of medical documentation of a therapeutic appointment: form No. 043/o "Medical card of a dental patient"; No. 037/o "Dentist's daily record sheet"; No. 039-2/o "Dentist's work accounting diary.	To be able to cooperate, exchange information about the patient's condition with specialized specialists	To be responsible for the timeliness and correctness of medical documentation
9.	The ability to assess the impact of environmental factors on the state of a person's dental and jaw system and health in general	Changes in the biochemical composition, structure, and properties of the hard tissues of the teeth with an increased content of fluorine (selenium) in the water and soil of endemic areas.	To assess the influence of exogenous factors on the state of hard tissues of teeth.	Be able to explain to the patient the importance of minerals and trace elements for the proper formation of teeth, jaws and bone system	To be responsible for mastering relevant knowledge and skills

* - lists of Appendix 3 of the Standard of Higher Education of Ukraine of the second (master's) level of the field of knowledge 22 "Health Care" specialty 221 "Dentistry".

Learning outcomes:

- Integrative final program learning outcomes, the formation of which is facilitated by the educational discipline of choice "Actual problems of endodontics", lays the foundation for the further formation of the following program learning outcomes in accordance with the Standard of Higher Education of Ukraine for undergraduate training of specialists of the second (master's) level of the specialty "Dentistry"
1. Collection of medical information about the patient's condition;
 2. Evaluation of the results of laboratory and instrumental research methods;
 3. Establishing a clinical diagnosis of a dental disease;
 4. Diagnosis of emergency conditions;
 5. Planning and carrying out measures for the prevention of dental diseases;
 6. Determination of the nature and principles of treatment of dental diseases;
 7. Determination of the necessary regime of work and rest, diet in the treatment of dental diseases;
 8. Determination of the tactics of managing a dental patient with somatic pathology;
 9. Performing medical and dental manipulations;
 10. Treatment of basic dental diseases;
 11. Organization of medical evacuation measures;
 12. Determination of tactics and provision of emergency medical assistance;
 13. Organization and conduct of dental dispensation of persons subject to dispensary supervision;
 14. Assessment of the impact of the environment on the state of health of the population (individual, family, population). Processing of state, social and medical information.
- The student must conduct anamnesis collection, subjective and objective examination of the dental patient.

1. Assign and analyze the data of laboratory, functional and/or instrumental examinations.

2. To establish a probable nosological or syndromic preliminary and clinical diagnosis of dental disease according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems.

3. Treat the main dental diseases.

4. Follow a healthy lifestyle, use self-regulation and self-control techniques.

Learning outcomes for the discipline. After completing the study of the discipline "Therapeutic Dentistry", the optional course "Actual issues of endodontics", students should know:

- clinical features of the anatomical and histological structure of the teeth, periodontium, mucous membrane and organs of the oral cavity;
- classification of pulpitis and periodontitis;
- basic methods of examination of dental patients;
- morphology of the root canal system
- basic clinical and biochemical indicators of the norm of biological fluids of the human body;
- principles of differential diagnosis of dental diseases;
- principles and stages of treatment of dental patients;
- tools for endodontic treatment;
- tactics, algorithms for providing emergency medical care at a dental appointment.

be able:

- carry out an examination of a dental patient;
- substantiate and formulate a preliminary diagnosis;
- carry out differential diagnosis;
- analyze the results of the patient's examination;
- make a clinical diagnosis of the main diseases;
- detect and identify manifestations of somatic diseases in the oral cavity.

- know modern methods of sealing the root canal system

2. Information volume of the academic discipline

60 hours are allocated to the study of the academic discipline - 2 ECTS credits.

Content module 1. Current issues of endodontics

3. The structure of the academic discipline

"Actual issues of endodontics" - 2 credits (60 hours): practical. - 30 hours, self work - 30 hours.

№	Topic	Hours
1.	Topography - anatomical features of the pulp structure and root canal system. Additional methods of examination of patients with pulpitis and periodontitis. Methods of determining the length of the root canal	5
2.	Systematization of manual and machine endodontic tool. Peculiarities of the work with instruments.	5
3.	Instrumental treatment of root canals by manual and machine methods. Means for disinfection of root canals. Peculiarities of endo and perio pathology treatment	5
4.	Methods and means for obturation of root canals	5
5.	Methods of the root canal unsealing. Restoration of the tooth crown after endodontic treatment	5
6.	Mistakes and complications in the diagnosis and treatment of patients with endodontic diseases	5

TYPES OF STUDENT SELF WORK

4th course (8th semester) (30 hours)

№ п/п	The subject of the lesson	Hours	type of control
1.	Preparation for practical classes - theoretical preparation and development of practical skills, writing an academic case history.	22	Current control in practical classes
2.	Self study of topics that are not part of the classroom lesson plan:		
	Restoration of the contact point during filling of II, III, IV classes according to Black. Methods of applying nails and matrix systems	2	Current control in practical classes
	Peculiarities of using the Step-back technique for processing a tooth root canal	2	
	Peculiarities of using the Step-down technique for treating a tooth root canal	2	
	Sealing of the root canal using the central pin technique	2	
	Total	30	

9. Individual tasks

1. Creation of educational videos on:
 - diagnosis and treatment of pulpitis
 - methods of dental patient examination, diagnosis and treatment;
 - differential diagnosis of the main dental diseases in the clinic of therapeutic dentistry.
- Production of educational stands.
- Preparation of scientific student papers and reports at scientific student conferences.
- Participation in professional student Olympiads in the discipline.
- Participation in competitions of professional skill.

10. Tasks for independent work of students

1. Clinical histology of periodontal tissues
2. Oral microorganisms are normal. Change in their composition under the influence of external and internal factors.
3. Saliva as a biological environment of the oral cavity. The chemical composition of saliva, its change under the influence of exotic and endogenous factors.
4. Surface formations on the teeth (cuticle, pellicle). Formation mechanism. Cuticle structure, pellicle.
5. Clinical methods of diagnosing dental diseases.
6. Laboratory methods of diagnosing dental diseases
7. Clinical significance of X-ray examination of endodontic and periodontal diseases.
8. Peculiarities of hygienic oral care.
9. Modern x-ray methods of researching diseases of the pulp and periodontium. Differential diagnosis of complications caused by allergies, dysbiosis and intoxications. Tactics of a dentist.
10. Modern endodontic tools for cleaning, expanding and sealing root canals. ISO standards. Method of use.
11. Instrumental treatment of root canals with "Step-back", "Crown-down" technique. "Balanced force" technique.
12. Basics of aesthetic restoration of teeth. Necessary tools for preparation of hard tissues of the tooth and carrying out restoration. The concept of tooth color. Principles and methods of choosing restoration color. Reproduction of natural tooth color. Planning of direct tooth restoration.

11. Teaching methods

The following teaching methods are used when studying the educational discipline of choice "Actual problems of endodontics":

- **verbal** (explanation, story, conversation, instruction);
- **visual** (observation, illustration, demonstration);
- **practical** (training of practical skills).
- **explanatory-illustrative or information-receptive:** assimilation by students of information provided by the teacher;
- **the method of problem presentation**, which consists in the fact that the teacher poses a problem and solves it himself, demonstrating the contradictions that characterize the learning process, while the students' task is to control the sequence of the presentation of the material, the materiality of the evidence, predicting the teacher's next steps; this MN is implemented by training students in problem situations with the aim of successful preliminary preparation for future work in real conditions of practical medical institutions; частково-пошуковий or **heuristic**, aimed at mastering individual elements of search activity, for example: the teacher formulates a problem, students - a hypothesis;

- **research**, the essence of which is the teacher's organization of students' search and creative activity by posing new problems and problematic tasks.

Teaching methods can also be divided into:

- methods that ensure perception and assimilation of knowledge by students (lectures, independent work, instruction, consultation);
- methods of applying knowledge and acquiring and consolidating abilities and skills (practical classes, control tasks, working in a clinic, conducting practice);
- methods of checking and evaluating knowledge, abilities and skills;

12. Control methods

The procedure for evaluating students' educational activities is regulated by the "Instructions for evaluating students' educational activities in the context of the implementation of the European credit transfer system and the organization of the educational process" (approved by the Ministry of Health of Ukraine on April 15, 2014).

Assessment of current educational activities.

For the elective subjects Current problems in endodontics in the 4th year, the form of final control is a credit:

The maximum number of points that a student can score for the current educational activity while studying the discipline is 200 points.

The minimum number of points that a student must score for the current educational activity to enroll in the discipline is 120 points.

The calculation of the number of points is carried out on the basis of the grades received by the student on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (CA), rounded to two decimal places. The obtained value is converted into points on a multi-point scale as follows:

$$x = \frac{CA \times 200}{5}$$

For convenience, a calculation table is given on a 200-point scale:

13. Recalculation of the average grade for the current activity into a multi-point scale for disciplines ending with credit

4-point scale	200-point scale	4.67	187	4.32	173	4-point scale	200-point scale
5	200	4.65	186	4.3	172	3.92	157
4.97	199	4.62	185	4.27	171	3.89	156
4.95	198	4.6	184	4.24	170	3.87	155
4.92	197	4.57	183	4.22	169	3.84	154
4.9	196	4.52	181	4.19	168	3.82	153
4.87	195	4.5	180	4.17	167	3.79	152
4.85	194	4.47	179	4.14	166	3.77	151
4.82	193	4- point scale	200- point scale	4.12	165	3.74	150
4.8	192	4.45	178	4.09	164	3.72	149
4.77	191	4.42	177	4.07	163	3.7	148
4.75	190	4.4	176	4.04	162	3.67	147
4.72	189	4.37	175	4.02	161	3.65	146
4.7	188	4.35	174	3.99	160	3.62	145
				3.97	159		
				3.94	158		

3.57	143
3.55	142
3.52	141
3.5	140
3.47	139
3.45	138
3.42	137
3.4	136

4- point scale	200- point scale
3.37	135
3.35	134
3.32	133
3.3	132
3.27	131

3.25	130
3.22	129
3.2	128
3.17	127
3.15	126
3.12	125
3.1	124
3.07	123

3.02	121
3	120
Less 3	Not enough

14. Determining the number of points that the student scored in the discipline.

The assessment of subjects, the form of final control of which is credit, is based on the results of the current educational activity and is expressed on a two-point scale "passed" or "failed". In order to enroll, a student must receive a score of at least 60% of the maximum number of points in the discipline (120 points) for the current educational activity

Points from the discipline are independently converted both to the ECTS scale and to the 4-point scale. Points from the ECTS scale are not converted into a 4-point scale and vice versa. Points of students studying in one specialty, taking into account the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Evaluation ECTS	Statistical indicator
A	The best 10 % students
B	Next 25 % students
C	Next 30 % students
D	Next 25 % students
E	Last 10 % students

Discipline points for students who have successfully completed the program are converted to a traditional 4-point scale according to the absolute criteria, which are listed below in the table:

Discipline points	Evaluation on a 4-point scale
From 170 to 200 points	5
From 140 to 169 points	4
From 139 points to the minimum number of points that the student must score	3
Below the minimum number of points that the student must score	2

The ECTS grade is not converted to the traditional scale, as the ECTS scale and the four-point scale are independent.

The objectivity of the evaluation of students' educational activity is checked by statistical methods (correlation coefficient between the ECTS grade and the grade on the national scale).

15. Methodological support

1. Curriculum of the discipline;
2. Handbooks for students on studying the discipline;
3. Plans of practical classes and independent work of students;
4. Methodological developments, theses, texts, multimedia presentations of lectures on the discipline;
5. Methodological guidelines for independent work of students in practical classes, including material for theoretical training and indicative maps for mastering professional skills and abilities, tests for self-control according to the topics of practical classes. Інструктивні матеріали для позааудиторної самостійної роботи за темами, що винесені на самостійне опрацювання.
6. Theoretical questions and practical tasks to control the assimilation of content modules;
7. Methodical recommendations for teachers for practical classes according to the thematic plan.

16. Recommended literature:

Борисенко А.В. Терапевтична стоматологія. Т 2. Карієс. Пульпіт. Періодонтит. Ротовий сепсис –К. : Медицина, 2010.- 560с.

Борисенко А.В. Терапевтична стоматологія. Т 3. Захворювання пародонта К. : Медицина, 2011. – 613 с.

Диспансеризація стоматологічних хворих з хронічними захворюваннями порожнини рота, червоної облямівки губ та передпухлинними процесами: навч. посібник для студентів і лікарів-інтернів вищих мед. закладів освіти III-IV рівнів акредитації, інтернів, лікарів-стоматологів/ Т.П. Кравець, М.М. Гордіюк, Г.Г. Бойко. □ Кривий Ріг, 2003.

Завербна Л.В. Перебіг гострої променевої хвороби у порожнині рота. Профілактика та лікування радіаційних ускладнень при променевої терапії онкологічних захворювань (методичні вказівки). □ Львів, 2007. □ 28 с.

Кухта С.Й., Бунь Ю.М., Кухта В.С. Класифікація хвороб порожнини рота та їх рентгенодіагностика. □ Львів, 2000.

Луцик О.Д., Макеев В.Ф., Яценко А.М. Атлас мікроанатомії органів ротової порожнини. □ Львів, 1999.

Ілюстративний довідник з ендодонтії // Рудольф Беєр, Міхаель А.Бауман, Андрей Кієльбаса; 240 с.: Київ - 2008 Ілюстративний довідник з ендодонтії .

Поспішіль Ю.О., Вовк В.І. Патологічна анатомія стоматологічних хвороб: навч. посібник для студентів стомат. ф-тів вищих мед. навч. закладів IV рівня акредитації. □ Львів: Компакт-ЛВ, 2005.

Соціально значимі інфекції в стоматології: навч. посібник для студентів стомат. ф-тів вищих навч. мед. закладів IV рівнів акредитації /І. Готь, О. Адамович, О. Масна-Чала; наук. ред. З. Масний. □ Львів: Компакт-ЛВ, 2005.

Терапевтична стоматологія: підручник для студентів вищих мед. навч. закладів IV рівня акредитації: у 2 Т. /А.К. Ніколишин, В.М. Ждан, А.В. Борисенко. □ Полтава: Дивосвіт, 2007. □ Т.2: Хвороби пародонта, стоматогенна хроніоінтоксикація, захворювання слизової оболонки порожнини рота, організація стоматологічної допомоги в Україні, основи вчення про профілактику стоматологічних захворювань. □ 2007.

Сулим Ю.В., Хороз Л.М., Бучковська А.Ю. Хвороби пульпи та періодонта (методичні вказівки). Львів, 2017 . 253с.

Ripetska R., Deneha I., Hrynovets V., Hysyk M. Diseases of the Periodontium. Etiology. Pathogenesis. Diagnosis. Treatment.– Lviv: Liga-Press, 2004. □ 174 s.

Ніколішин А.К. Терапевтична стоматологія / А.К. Ніколішин: підручник для студентів стоматологічних факультетів вищих медичних навчальних закладів IV рівня акредитації у двох томах, Т.І; □ Полтава: Дивосвіт, 2005. □ 392 с.

Терапевтична стоматологія / За ред. проф. А.К. Ніколішина.– Вінниця: Нова Книга, 2012.– С. 379-427.

Терапевтична стоматологія дитячого віку (За ред. проф. Л.О. Хоменко). □ К.: Книга плюс, 1999. □ 524 с.

Терапевтична стоматологія: підручник у чотирьох томах / М.Ф. Данилевський, А.В. Борисенко, А.М. Полігун, Л.Ф. Сідельнікова, О.Ф. Несин.– К.: Здоров'я, 2004.– Т. 2.– 400 с.

INFORMATION RESOURCES

1. Офіційний сайт Львівського національного медичного університету імені Данила

Галицького: <http://www.meduniv.lviv.ua/>

2. Електронні інформаційні ресурси вузівської бібліотеки:

Електронний каталог бібліотеки.

Інформаційно-довідникові джерела: енциклопедії, довідники, словники.

Навчальні електронні видання і ресурси: посібники, що містять систематизований матеріал в рамках програми навчальної дисципліни.

3. Інформаційні ресурси в мережі Інтернет:

– <http://www.library.gov.ua/novi-nadkhodzhennia/stomatolohiia-eds-m-m-rozhok-liber-2/802-stomatolohiia-eds-m-m-rozhok-liber-2>

- <https://nmuofficial.com/files/kaf88/books/danilevsky-terstom-tom2.pdf>