

MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY
Department of Therapeutic Dentistry

"APPROVED"

Acting vice-rector for scientific and pedagogical work


Eduard BURIACHKIVSKYI

September 1, 2023

WORKING PROGRAM
ELECTIVE EDUCATIONAL DISCIPLINES
"Modern features of preparation of carious cavities and root canals of teeth"

Level of higher education: second (master's)

Field of knowledge: 22 "Health care"

Specialty: 221 "Dentistry"

Educational and professional program: Dentistry

2023

The work program is based on the educational and professional program "Dentistry" of training specialists of the second (master's) level of higher education in the specialty 221 "Dentistry" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU (protocol No. 8 dated June, 28 2023).

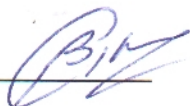
Developers:

head of the department, doctor of medicine, prof. Skyba V. Ya.

Head of the department, Doctor of Psychology, Assoc. S.M. Koval

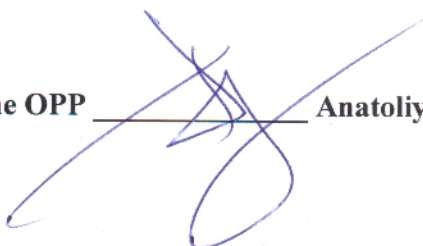
The program was discussed at the meeting of the department, protocol No 1 from. 28.08.2023

Chief department: _____



Vasyl SKYBA

Agreed with the guarantor of the OPP _____



Anatoliy GULYUK

The program was approved at the meeting of the subject cyclic methodical commission for dental disciplines Protocol No. 1 from 28.08 2023

Head of the subject cycle methodical commission

Ph.D., associate professor _____



Volodymyr KRYKLYAS

Reviewed and approved at the meeting of the department

Protocol No. ___ of "___" _____ 20__

Head of Department _____

(signature) (First Name Surname)

1. Description of the educational discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
The total number of: Credits: 3.0 Hours: 90 Content modules: 1	Field of knowledge 22 "Health care" Specialty 221 "Dentistry" Level of higher education second (master's)	<i>Full-time education</i>
		<i>Compulsory discipline</i>
		<i>Year of training: 2</i>
		<i>Semester III, IV</i>
		<i>Lectures (0 hours)</i>
		<i>Seminars (30 hours)</i>
		<i>Practical (0 hours)</i>
		<i>Laboratory (0 hours)</i>
		<i>Independent work (60 hours)</i> <i>including individual tasks (0 hours)</i> <i>The form of final control is credit</i>

2. The purpose and tasks of the educational discipline, competences, program learning results.

The purpose of studying the discipline "Modern peculiarities of preparation of carious cavities and root canals of teeth" is to improve knowledge and skills regarding the selection and work with tools for preparation of teeth and root canals depending on their structure, properties and indications for use, mastering modern technologies of preparation of hard tissues of teeth.

The task of the discipline "Modern features of the preparation of carious cavities and root canals of teeth": to form students' professional knowledge and skills in the treatment of diseases of hard dental tissues with the help of knowledge and skills in the use of modern dental tools, techniques and methods of minimally invasive preparation of hard dental tissues, creation of optimal endodontic access, machine preparation of root canals.

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 " Fundamentals of Aesthetic Dental Restoration " ensures that students acquire the following *competencies*:

Integral competence:

The ability to solve typical and complex specialized tasks and problems in the field of health care / in the specialty "Dentistry", in professional activity or in the learning process, which involves conducting research and/or implementing innovations and is characterized by the complexity and uncertainty of conditions and requirements.

General competences (GC):

GC 1. Ability to abstract thinking, analysis and synthesis.

GC 2. Knowledge and understanding of the subject area and understanding of professional activity.

GC 3. Ability to apply knowledge in practical activities.

GC 6. Skills in using information and communication technologies.

GC 7. Ability to find, process and analyze information from various sources.

GC 9. The ability to identify, pose and solve problems.

Special competences (SC):

SC 1. Ability to collect medical information about the patient and analyze clinical data.

SC 2. Ability to interpret the results of laboratory and instrumental research.

SC 5. Ability to design the process of providing medical care: determine the approaches, plan, types and principles of treatment of diseases of the organs and tissues of the oral cavity and maxillofacial area.

SC 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.

SC 8. Ability to perform medical and dental manipulations.

SC 9. Ability to treat the main diseases of the organs and tissues of the oral cavity and maxillofacial region.

SC 14. Ability to maintain regulatory medical documentation.

Program learning outcomes (PLO):

PLO 20. To organize the necessary level of individual safety (own and the persons they care about) in case of typical dangerous situations in the individual field of activity

PLO 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).

PLO 22. To perform medical stomatological manipulations on the basis of 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).

As a result of studying the academic discipline, the student of higher education must:

Know:

- organization of dental office work, functions and responsibilities medical personnel;
- issues of ergonomics and safety technology;
- modern dental instruments, types of endomotors used for preparation of carious cavities and root canals;
- to know dental equipment and tools for each of the stages preparation of carious cavities of I, II, III, IV and V classes according to Black;
- peculiarities of preparation of carious cavities for various filling materials;
- traditional and non-traditional techniques of preparation of carious cavities (tunnel preparation, MI-therapy (micro-preparation), ART-methodology);
- tooth preparation techniques for pin designs;
- features of tooth preparation for composite materials;
- means for finishing enamel edges for composite restoration;
- classification and structure of intracanal and parapulpal pins;
- classification of endodontic instruments, main machine systems endodontic instruments;
- peculiarities of the opening of the tooth cavity of frontal teeth, premolars and molars;
- techniques of machine processing of root canals.

Be able:

- to organize the work of medical personnel; form rational medical routes for patients; organize interaction with colleagues;
- to determine the I, II, III, IV and V classes of carious cavities according to Black;
- to prepare different variants of carious cavities of I, II, III, IV and V classes according to Black;
- apply the "minimally invasive dissection" technique on the phantom;
 - use the fissure preparation technique for preventive filling on the phantom;
- to carry out the technique of tunnel preparation of a carious cavity on a phantom;
- use the ATR method of preparation on a phantom;
 - perform opening of mouths of root canals and their preparation on a phantom;
- make adequate endodontic access taking into account the damage to the crown of the tooth;

- to carry out the apical-coronal method of processing the root canal;
- to carry out the crown-apical method of processing the root canal;
- carry out mechanical processing of root canals on a phantom;
- adhere to a healthy lifestyle, use self-regulation and self-control techniques.
- to be aware of and be guided in one's activities by civil rights, freedoms and duties, to raise the general educational cultural level.

3. The content of the educational discipline

Topic 1. Dental tools for preparation of carious cavities. Peculiarities of enamel edge processing in preparation for filling with composite materials.

Topic 2. Minimally invasive techniques of preparation of carious cavities (tunnel preparation, slot preparation, batecave preparation, micropreparation, ART method).

Topic 3. Peculiarities of tooth preparation for restoration using pin structures (parapulpal and intrapulpal).

Topic 4. Modern root canal preparation systems: hand and machine tools, their structure, work technique. Endomotors, tips, their main characteristics.

Topic 5. The technique of opening the cavity of teeth of different groups. Creation of endodontic access.

Topic 6. Apical-coronal method of root canal treatment, crown-apical method of root canal treatment.

Topic 7. Methods, tools and methods of machine processing of root canals.

4. Structure of the academic discipline:

Titles of topics	Number of hours	Titles of topics					Number of hours
		Includ ing ever ythi ng	Including everything				
			lectur es	semin ars	practi cal	labo rator y	
Topic 1. Dental tools for preparation of carious cavities. Peculiarities of enamel edge processing in preparation for filling with composite materials.	14		6			8	
Topic 2. Minimally invasive techniques of preparation of carious cavities (tunnel preparation, slot preparation, batecave preparation, micropreparation, ART method).	12		4			8	
Topic 3. Peculiarities of tooth preparation for restoration using pin structures (parapulpal and intrapulpal).	10		2			8	
Topic 4. Modern root canal preparation systems: hand and machine tools, their structure, work technique. Endomotors, tips, their main characteristics.	16		6			10	
Topic 5. The technique of opening the cavity of teeth of different groups. Creation of endodontic access.	10		2			8	
Topic 6. Apical-coronal method of root canal	12		4			8	

treatment, crown-apical method of root canal treatment.					
Topic 7. Methods, tools and methods of machine processing of root canals.	16		6		10
Total	90		30		60

5. Topics of lectures / seminars / practical / laboratory classes

5.1. Topics of lectures

Lectures are not provided.

5.2. Topics of practical classes

Practical classes are not provided

5.3. Thematic plan of seminar classes

№ з/п	Topic name	Number hours
1	Topic 1. Dental tools for preparation of carious cavities. Peculiarities of enamel edge processing in preparation for filling with composite materials.	6
2	Topic 2. Minimally invasive techniques of preparation of carious cavities (tunnel preparation, slot preparation, batecave preparation, micropreparation, ART method).	4
3	Topic 3. Peculiarities of tooth preparation for restoration using pin structures (parapulpal and intrapulpal).	2
4	Topic 4. Modern root canal preparation systems: hand and machine tools, their structure, work technique. Endomotors, tips, their main characteristics.	6
5	Topic 5. The technique of opening the cavity of teeth of different groups. Creation of endodontic access.	2
6	Topic 6. Apical-coronal method of root canal treatment, crown-apical method of root canal treatment.	4
7	Topic 7. Methods, tools and methods of machine processing of root canals.	6
	Total	30

5.4. Topics of laboratory classes

Laboratory classes are not provided.

6. Independent work

№ з/п	Topic name	Number hours
1.	Topic 1. Dental tools for preparation of carious cavities. Peculiarities of enamel edge processing in preparation for filling with composite materials.	8
2.	Topic 2. Minimally invasive techniques of preparation of carious cavities (tunnel preparation, slot preparation, batecave preparation, micropreparation, ART method).	8
3.	Topic 3. Peculiarities of tooth preparation for restoration using pin structures (parapulpal and intrapulpal).	8
4.	Topic 4. Modern root canal preparation systems: hand and machine tools, their structure, work technique. Endomotors, tips, their main characteristics.	10
5.	Topic 5. The technique of opening the cavity of teeth of different groups. Creation of endodontic access.	8

6.	Topic 6. Apical-coronal method of root canal treatment, crown-apical method of root canal treatment.	8
7.	Topic 7. Methods, tools and methods of machine processing of root canals.	10
Total		60

7. Teaching methods

The teaching of the selective educational discipline " Fundamentals of Aesthetic Dental Restoration " in seminar classes is provided by methodical developments for each seminar class, visual teaching aids for each class (presentations, video lectures), the department's information resource, and structured skill control algorithms.

Independent work in the study of a selective academic discipline is ensured by methodical developments for independent work, visual teaching aids (video lectures, presentations), information resource of the department, topics of independent work, structured algorithms of skill control.

There is no final control, the study of the discipline ends with a credit at the last seminar class.

8. Forms of control and assessment methods (including criteria for evaluating learning outcomes)

Current control:

1. Evaluation of theoretical knowledge on the subject of the lesson:

methods: survey, solving a situational clinical problem;

the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.

2. Evaluation of practical skills and manipulations on the subject of the lesson:

methods: assessment of the correctness of the performance of practical skills, role play.

the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.

The grade for one practical session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current evaluation criteria in practical training

Mark	Current evaluation
«5»	The applicant is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the when working on a phantom and interpreting clinical, laboratory and instrumental research data, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the when working on a phantom and interpreting clinical, laboratory and instrumental research data with some errors, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
«3»	The acquirer does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of a situational clinical problem, demonstrates practical skills during the when working on a phantom and interpreting clinical, laboratory and instrumental research data with significant errors.
«2»	The acquirer does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the when working on a phantom and interpreting clinical, laboratory and instrumental research data.

Final control: credit.

Credit is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Assessment is carried out: at the last lesson before the beginning of the examination session - with the tape system of learning, at the last lesson - with the cycle system of learning. The credit score is the arithmetic mean of all components according to the traditional four-point scale and has a value that is rounded according to the statistics method with two decimal places after the decimal point.

9. Distribution of points received by higher education applicants

The average score for the discipline is translated into a national score and converted into points on a multi-point scale (200-point scale).

The conversion of a traditional grade into a 200-point grade is performed by the information and technical department of the University using the "Contingent" program according to the formula:

Average success score (current success in the discipline) x 40

Table of conversion of traditional assessment to multi-point assessment

National assessment for discipline	The sum of points for the discipline
Excellent ("5")	185 – 200
Good ("4")	151 – 184
Satisfactory ("3")	120 – 150
Unsatisfactory ("2")	Less 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is given to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

According to the ECTS rating scale, the achievements of students in the educational component who study in the same course of the same specialty are evaluated, according to the points they received, by ranking, namely:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

Score on a scale ECTS	Statistical indicator
A	Top 10% achievers
B	The next 25% of earners
C	The next 30% of earners
D	The next 25% of earners
E	The next 10% of earners

10. Methodical provision

1. Working curriculum in the discipline "**Modern features of the preparation of carious cavities and root canals of teeth**"
2. Methodological developments for students for seminar classes.
3. Questions and tasks for current control of students' knowledge and skills.
4. Textbooks and study guides.
5. Scientific works of professors and teaching staff of the department and other researchers on problems of philosophy and methodology of science.
6. A collection of test tasks, an electronic bank of test tasks, situational tasks as part of methodological developments for seminar classes.

11. Questions for preparing for the final inspection

1. Dental tools for preparing carious cavities.
2. Modern methods of physical and chemical preparation of carious cavities.
3. Peculiarities of enamel edge processing in preparation for filling with composite materials.
4. Minimally invasive techniques for preparation of carious cavities (tunnel preparation). Features, technique.
5. Minimally invasive techniques for preparation of carious cavities (slot preparation). Features, technique.
6. ART-methodology of preparation of carious cavities. Features, technique.
7. Minimally invasive techniques for preparation of carious cavities (batecave preparation, micropreparation). Machinery.
8. Peculiarities of tooth preparation for restoration using pin structures (intrapulparny).
9. Peculiarities of tooth preparation for restoration using pin structures (parapulparny).
10. Modern root canal preparation systems: manual. Tools, their structure, work technique.
11. Modern root canal preparation systems; machine tools, their structure, work technique.
12. Endomotors, tips, their main characteristics.
13. The technique of opening the cavity of teeth of different groups.
14. Methods of detecting mouths of root canals.
15. Creation of endodontic access in single-rooted teeth.
16. Creation of endodontic access in multi-rooted teeth.
17. Apical-coronal method of root canal treatment. Machinery.
18. Crown-apical method of root canal treatment.
19. Methods, tools and methods of machine processing of root canals: Profile permanent rotation tools.
20. Methods, tools and methods of machine processing of root canals: Endodontic system "RECIPROC".
21. Methods, tools and methods of machine processing of root canals: "SAF" system.
22. Dental tools for processing enamel edges.
23. Finishing dental tools for processing restorations.
24. Peculiarities of the structure of the instrumentation for opening the mouths of root canals.
25. Nickel-titanium manual instruments for expanding root canals. Structure, features of use.

12. Recommended literature

Main:

1. Therapeutic dentistry: In 4 vols. — Vol. 2. Caries. Pulpit. Periodontitis. Oral sepsis: Textbook for students. stomatal f-tiv honey. ZVO — 3rd edition. Recommended by the Ministry of Health / Ed. A.V. Borysenko — K., 2020. — 592 p.
2. Dental diseases: therapeutic dentistry, edited by prof. Borysenko A.V. - K.: Medicine, 2017. - 664 p.
3. Pharmacotherapy of diseases of the mucous membrane of the oral cavity and periodontal tissues. edited by Prof. Borysenko A.V. - K.: Medicine, 2018. - 504 p.

4. Bidenko N.V., Borysenko A.V., Vasylchuk O.V. etc.. Algorithms for performing dental and medical manipulations for preparation for the State certification of students of the 5th year in the specialty "Dentistry". - Kyiv: Kniga-plus, 2017. - 455 p.

Auxiliary:

1. Therapeutic stomatology: equipment and tools: training manual / V.I. Gerelyuk, N.V. Neiko, V.V. Materynskyi, O.P. Kobrin. – Ivano-Frankivsk, 2012. – 95 p.

2. Modern filling materials and methods of their use in therapeutic dentistry: [teaching manual] / G.F. Biloklytska, O.V. Asharenkova, O.V. Kopchak - K.: Publishing House "Askania", 2013. - 143 p.

3. Clinical pharmacology and pharmacotherapy in dentistry: Education. manual for honey universities, institutes, acad. — 2nd edition. Recommended by the Academic Council of the NMAPO named after P.L. Shupyka / Mazur I.P., Haytovych M.V., Golopyho L.I. — K., 2019. — 376 p.

4. Petrushanko T.O., Ostrovska L.Y., Ilenko N.M. Clinical practice in therapeutic stomatology: Study guide / T.O. Petrushanko, L.Y. Ostrovska, N.M. Ilenko. - Kyiv: "Center for Educational Literature", 2019. - 259 p.

5. Borysenko A.V., Antonenko M.Yu., Sidelnikova L.F., Melnychuk T.A. Essays on practical periodontology. - K.: LLC "Library "Health of Ukraine" - Kyiv: "Library "Health of Ukraine", 2017. — 348 p.

6. Industrial practice in therapeutic dentistry for students of the IV year: Study guide / T.O. Petrushanko, A.K. Nikolishin, N.M. Ilenko, E.V. Nikolishina, I.O. Ivanytskyi - Kyiv: "Center for Educational Literature", 2018. – 288 p.;

7. Ivanytskyi I.O. Hypersensitivity of teeth: a study guide for students of stomatological faculties of higher medical educational institutions of the IV level of accreditation / I.O. Ivanytskyi, O.S. Ivanytska, T.O. Petrushanko. – Poltava: Dyvosvit, 2019. – 108 p.

8. Clinical pharmacology and pharmacotherapy in dentistry: Education. manual for honey universities, institutes, acad. — 2nd edition. Recommended by the Academic Council of the NMAPO named after P.L. Shupyka / Mazur I.P., Haytovych M.V., Golopyho L.I. — K., 2019. — 376 p.

13. Information resources:

1. Official website of ONMedU <https://onmedu.edu.ua/>

2. Electronic information resources of the ONMedU library <http://info.odmu.edu.ua/>

- Electronic catalog of the library.

- Information and reference sources: encyclopedias, directories, dictionaries

- Educational electronic publications and resources: manuals containing systematized material within the curriculum of the academic discipline.