No. Stom-21

Federal State Budgetary Educational Institution
Higher Education
"NORTH OSSETIAN STATE MEDICAL ACADEMY"
Ministry of Health of the Russian Federation

ДОКУМЕНТ ПОДПИСАН
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат:
2D4EFF8215A48D63793F851FADB089F4
Владелец: Ремизов Олег Валерьевич
Действителен: с 23.05.2023 до 15.08.2024

WORKING PROGRAM OF THE DISCIPLINE

"DIGITAL TECHNOLOGIES IN DENTISTRY"

the main professional educational program of higher education - specialist's programs in the specialty 31.05.03 Dentistry,
approved May 24, 2023

Form of study full-time

Term of development of OPOP VO 5

Department of Dentistry №3

Vladikavkaz, 2023

When developing the work program of the discipline, the following aretaken as the basis:

1. Federal State Educational Standard of Higher Education in the specialty 31.05.03 Dentistry,approved by the Ministry of Education and Science of the Russian Federation on August 12, 2020 No. 984

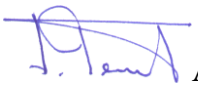
2. Curriculum of the OPOP HE in the specialty 31.05.03 Dentistry
Stom-21-01-21
Stom-21-02-22
Stom-21-03-23,
approved by the Academic Council of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia 05/24/2023 Protocol No. 8

The work program of the discipline was approved at a meeting of the Department of Dentistry No.3 dated 05/19/2023 Protocol No. 10

The work program of the discipline was approved at a meeting of the central coordinating educational and methodological council from 05/23/2023 Protocol No. 4

The work program of the discipline was approved by the Academic Council of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia 05/24/2023 Protocol No. 8

Developers:

Head Department of Dentistry No. 3, MD,  Assoc. Remizova A.A

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Content of the work program

1)name of the discipline;
2)a list of planned learning outcomes in the discipline, correlated with the planned results of mastering the educational program;
3)indication of the place of the discipline in the structure of the educational program;
4)the volume of discipline in credit units indicating the number of academic or astronomical hours allocated for contact work of students with a teacher (by type of training) and for independent work of students;
5)the content of the discipline, structured by topics (sections) indicating the number of academic or astronomical hours allocated to them and types of training sessions;
6)a list of educational and methodological support for independent work of students in the discipline;
7)assissment materials for conducting intermediate certification of students in the discipline;
8)a list of basic and additional educational literature necessary for mastering the discipline;
9)a list of resources of the information and telecommunications network "Internet" (hereinafter referred to as the "Internet" network) necessary for mastering the discipline;
10)methodological instructions for students on mastering the discipline;
11)a list of information technologies used in the implementation of the educational process in the discipline, including a list of software and information reference systems (if necessary);
12)description of the material and technical base necessary for the implementation of the educational process in the discipline.
13)conducting educational activities using e-learning and distance learning technologies.

2. The list of planned learning outcomes in the discipline and the results of mastering the educational program

No. p / p	Number / index of competence	Content of competence (or parts of it)	Topic of the lesson (section)	Competency achievement indicators	Development results		
					know	be able to	own
one	2	3	four	5	6	7	eight
1.	UK-1	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	Modern methods of digital diagnostics in dentistry. Possibilities of 3D tomograms, radiovisiography, intraoral optical cameras.	ID-1UK-1 Identifies problem situations and searches for the necessary information to solve problems in the professional field. ID-2 UK-1 Forms value judgments in the professional field ID-3 UK-1 Conducts a critical analysis of information using the historical method	- methods of abstract thinking in establishing the truth, methods of scientific research by mental dismemberment of the object (analysis) and by studying the subject in its integrity, the unity of its parts (synthesis); - methods and techniques of philosophical analysis of problems;	- use the methods of abstract thinking, analysis and synthesis, analyze alternative options for solving research problems and evaluate the effectiveness of the implementation of these options	- a holistic system of skills for using abstract thinking in solving problems that arise during the performance of research work, - skills of presenting an independent point of view, analysis and logical thinking, public speech, moral and ethical argumentation
2.	UK-6	Able to identify and implement the priorities of their own activities and ways to improve them based on self-assessment and lifelong learning	Examination of a dental patient using digital technologies. differential diagnosis. Final diagnosis, elements of telemedicine.	ID-1 UK-6 Determines priorities and plans their own professional activities, controls and analyzes its results. ID-2 UK-6 Chooses the most effective ways and means of improving their own professional activities based on self-assessment	- potential strengths and weaknesses of the personality; - effective ways of self-learning; - methods of effective time planning; - major time wasters	- make long-term and short-term plans; - organize your time; - build a portfolio; - plan your life for the period of study in an educational organization	- techniques for analyzing meaningful life problems and setting priorities; - planning your professional trajectory
3.	**OPK-1**	Able to implement moral and legal norms, ethical and deontological principles in professional activities	Psychosocial problems of dental care from the point of view of a dentist.	ID-1 GPC-1 Complies with moral and legal standards in professional activities. ID-2 GPC-1 presents professional information in the process of intercultural interaction, observing the	-professional ethics and deontology of medical practice; -the role of informed consent	- communicate with patients and colleagues; - work in a team in the diagnosis and treatment of various types of	- communication skills with colleagues and patients

				principles of ethics and deontology		pathology	
4.	**OPK-5**	Able to conduct a patient examination in order to establish a diagnosis in solving professional problems	Innovative methods of examination, diagnostics, in dentistry CAD-CAM systems in dentistry	ID-1 GPC-5 Own the algorithm clinical examination of the patient. ID-2 GPC-5 To be able to draw up a plan for laboratory and instrumental diagnostics. ID-3 GPC-5 Own the algorithm of clinical laboratory and functional diagnostics in solving professional problems. ID-4 GPC-5 To be able to evaluate the results of clinical, laboratory and functional diagnostics in solving professional problems.	1. Innovative methods of examination, diagnostics, in dentistrylogic. 2. CAD-CAM systems in dentistry, their classification	1. Apply innovative methods of examination, diagnostics, in dentistrylogic.	1. Methods of innovative diagnostics in dentistry
5.	**PC-3**	Development, implementation and control of the effectiveness of individual rehabilitation programs	Digital Smile Design in Dentistry (DSD systems)	ID-1 Develop a rehabilitation plan for patients with diseases of the maxillofacial region ID-2 Carry out rehabilitation measures for diseases of the maxillofacial region ID-3 Apply methods of complex rehabilitation of patients with dental diseases, taking into account the general condition of the body and the presence of concomitant pathology ID-4 Use personal protective equipment	1. methods of digital design of ulvbki (using templates, in a specialized program)	1. carry out digital smile design	1. digital smile design software

6.	**PC-3**	Development, implementation and control of the effectiveness of individual rehabilitation programs	Methods of digital 3D printing in dentistry	ID-1 Develop a rehabilitation plan for patients with diseases of the maxillofacial region ID-2 Carry out rehabilitation measures for diseases of the maxillofacial region ID-3 Apply methods of complex rehabilitation of patients with dental diseases, taking into account the general condition of the body and the presence of concomitant pathology ID-4 Use personal protective equipment	1. existing 3D printing techniques	1. scan the model	1. intraoral dental scanning
7.	**PC-3**	Development, implementation and control of the effectiveness of individual rehabilitation programs	Milling technologies in dentistry	ID-1 Develop a rehabilitation plan for patients with diseases of the maxillofacial region ID-2 Carry out rehabilitation measures for diseases of the maxillofacial region ID-3 Apply methods of complex rehabilitation of patients with dental diseases, taking into account the general condition of the body and the presence of concomitant pathology ID-4 Use personal protective equipment	1. Types of milling machines used in dentistry	1. Determine the indications for the use of ceramic milled veneers	1. Algorithm for fixation of ceramic milled veneers

3. The place of discipline in the structure of the educational program

The discipline refers to the part formed by the participants of educational relations of Block 1 of the Federal State Educational Standard of Higher Education in the specialty 31.05.03 Dentistry.

Types of tasks of professional activity that underlie the teaching of this discipline:

Medical

Organizational and managerial

Research.

4. Scope of discipline:

No. No. p/n	**Type of work**		**Totalcredit units**	**Total hours**	**Semester**
					5
					hours
one	2		3	four	5
one	**Contact work of students with teacher (total), including:**		-	48	48
2	Lectures (L)			eight	eight
3	Clinical Practice (PP)			40	40
four	Seminars (C)		-		
5	Laboratory work (LR)		-		
6	**Student Independent Work (SIW)**			24	24
7	**Type of intermediate attestations**	credit (G)		+	+
		exam (E)	-	-	
eight	**TOTAL:**General laboriousness	**hours**		**72**	**72**
		Z	**2**		**2**

5. The content of the discipline

p / no.	**semester number**	**Name of the section of the academic discipline (module)**	**Types of educational activities, including independent work of students (in hours**				**Forms of current control.**
			L	**PZ**	**SRS**	**Total**	
one	2	3					**9**
one	5	Digital document management system in dentistry. Diagnostic capabilities provided by 3D images. Radiovisiography.	one	eight	four	13	S, TK, SZ, UZ
2	5	Digital Smile Design in Dentistry (DSD systems)	one	eight	5	fourteen	S, TK, SZ, UZ
3	5	CAD-CAM systems in dentistry	2	eight	5	fifteen	S, TK, SZ, UZ
four	5	Methods of digital 3D printing in dentistry	2	eight	5	fifteen	S, TK, SZ, UZ

5	5	Milling technologies in dentistry	2	eigh t	5	fifte en	S, TK, SZ, UZ
		TOTAL:	eig ht	40	24	72	

Note:S - interview, TK - test tasks, SZ - situational tasks, KZ - training tasks

6. The list of educational and methodological support for independent work of students in the discipline

Main literature

No./ n	semester number	Name of educational and methodical development
one	5	Digital technologies in dentistry. Methodological guide to practical exercises for teachers of the Faculty of Dentistry, 5th year 5 semester; Remizova A.A., Morgoeva Z.Z.; 2020 - 31 p.
2	5	Digital technologies in dentistry. Educational and methodical manual for practical exercises for students of the Faculty of Dentistry; 5 course 5 semester; Remizova A.A., Morgoeva Z.Z.; 2020 - 87 p.
3	5	Digital technologies in dentistry. Methodical manual on independent extracurricular work in therapeutic dentistry for students; 5 course 5 semester; Remizova A.A., Morgoeva Z.Z.; 2020 - 43 p.

7. Assissment materials for conducting intermediate certification of students in the discipline

No./n	List of competencies	No. semester	Indicator(s) evaluation	Evaluation criterion(s)	Evaluation scale	Name FOS
one	**2**	**3**	**four**	**5**	**6**	**7**
one	UK-1 UK-6 OPK-1 OPK-5 PC-3	5	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	Tickets to offset. Test tasks. Control tasks.

8. The list of basic and additional educational literature necessary for mastering the discipline

Main literature

P/No.	Name	The authors)	Year, place of publication	Number of copies	
				in library	at the department
one	2	3	four	5	6
1.	Clinical aspects of the treatment of patients with clasp prostheses: a textbook	Remizova A. A., Dzgoeva M. G.,. Tingaeva Yu. I.	M. : GEOTAR-Media, 2021	150	
2.	Therapeutic dentistry: textbook	ed. E. V. Borovsky	M.: MIA, 2004 2006 2007 2009	eight four one one	
3.	Orthodontics. Modern methods for diagnosing anomalies of teeth, dentition and occlusion: a textbook	Persin L. S.	Moscow : GEOTAR-Media, 2021	7	
4.	Practical therapeutic dentistry: textbook. allowance	Nikolaev A.I., Tsepov L.M.	M.: MEDpress-inform, 2010 2013 2014	3 eight 27	
5.	Therapeutic dentistry. P 1. Diseases of the teeth: a textbook	ed. E. A. Volkov	M.: GEOTAR-Media, 2013 2015	102 "Student Advisor" http://www.studmedlib.ru/book/ISBN9785970433393.html	
6.	Therapeutic dentistry. Cariesology and diseases of hard tissues of teeth. Endodontics: a guide to practical exercises: textbook. allowance	Maksimovsky Yu.M., Mitronin A.V.	M. : GEOTAR-Media, 2014	100 "Student Advisor" http://www.studmedlib.ru/book/ISBN9785970429198.html	

additional literature

P/No.	Name	The authors)	Year, place of publication	Number of copies	
				in library	at the department
one	2	3	four	5	6
1.	Therapeutic dentistry: national guidelines	ed. L.A. Dmitrieva	M.: GEOTAR-Media, 2009 2015	one one	
2.	Dental instrumentation: atlas	Bazikyan E. A..	M. : GEOTAR-Media, 2015, 2017	one "Student Advisor"http://www.studmedlib.ru/book/ISBN9785970440490.html	

3.	X-ray anatomy and X-ray diagnostics in dentistry: textbook. allowance	Drone V.P.	M. : GEOTAR-Media, 2017 2020	one 3	
				"Student Advisor"http://www.studmedlib.ru/book/ISBN9785970441022.html	
4.	Periodontal diseases. A modern view on clinical diagnostic and therapeutic aspects	Ed. O. O. Yanushevich	M. : GEOTAR-Media, 2010	3	
				"Student Advisor"http://www.studmedlib.ru/book/ISBN9785970410370.html	
5.	Radiation diagnostics in dentistry: national guidelines	Ed. A. Yu. Vasilyeva	M. : GEOTAR-Media, 2010	one	
6.	Modern educational technologies in dentistry (simulation course): textbook	Alpatova V. G., Balkizov Z. Z., Batyukov N. M..	Moscow: GEOTAR-Media, 2021	7	
7.	Dictionary-reference book of medical dental terms and concepts	Ed. I. M. Rasulova.	M. : Pero, 2019	one	
8.	Orthodontics. National leadership. In 2 vols. T.1. Diagnosis of dentoalveolar anomalies	Ed. L. S. Persina	Moscow : GEOTAR-Media, 2020	one	
9.	Orthodontics. National leadership. In 2 vols. T.2. Treatment of dental anomalies	Ed. L. S. Persina	Moscow : GEOTAR-Media, 2020	one	
10.	Orthopedic Dentistry: National Guidelines	Ed. I. Yu. Lebedenko.	M.: GEOTAR-Media, 2016	2	
11.	Oral and maxillofacial surgery: textbook	Ed. A. Yu. Drobysheva	Moscow: GEOTAR-Media, 2018 2021	ten 23	
				"Student Advisor"http://www.studmedlib.ru/book/ISBN9785970440810.html	
12.	Metal materials for endoprosthetics	Nochovnaya N.A.	M. : VIAM, 2014	four	
13.	Epifanov V. A. Medical rehabilitation for diseases and injuries of the maxillofacial region: monograph	Epifanov V.A., Epifanov A.V.	M. : GEOTAR-Media, 2020	2	
14.	Propaedeutic dentistry: textbook	ed. E. A. Bazikyan	M.: GEOTAR-Media, 2008, 2010	92	
				"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970414804.html3	

9. List of resources of the information and telecommunication network "Internet" necessary for mastering the discipline

No. p / p	Resource name	Website address
1.	ModernLib - electronic library,	http://modernlib.ru
2.	Russian Dental Portal.	www.stom.ru
3.	Electronic books on dentistry.	www.web-4-u.ru/stomatinfo
4.	Medical literature on dentistry.	www.mmbook.ru
5.	Information dental resource.	denta-info.ru
6.	Information resource for students of medical universities	www.studmedlib.ru
7.	Federal Electronic Medical Library (FEMB)	feml.scsml.rssi.ru/feml

10. Guidelines for students on the development of the discipline.

Training consists of contact work (48 hours), including a lecture course (8 hours) and practical classes (40 hours) and independent work (24 hours). The main study time is allocated for practical work on the assimilation of theoretical knowledge, the acquisition of practical skills and abilities.

When studying an academic discipline, it is necessary to use the entire resource of basic and additional educational literature, lecture material, visual aids and demonstration material and master the practical skills acquired in the course of working with demonstration visual aids, working with patients and solving situational problems.

Practical classes are conducted in the form of preclinical and clinical practice. Preclinical practice is carried out in classrooms with the use of video and photographic materials, in phantom classes, situational tasks are solved. Then the analysis of clinical patients is carried out.

In accordance with the requirements of the Federal State Educational Standard of Higher Education, interactive forms of conducting classes are widely used in the educational process (developing and problem-based learning in the form of role-playing games, practicing practical skills on phantoms, analyzing a specific situation, discussing a theoretical analysis of a topic, multimedia learning). The proportion of classes conducted in interactive forms is at least 10% of classroom classes.

Independent work of students implies preparation for seminars and practical classes and includes: work with visual materials, educational basic and additional literature, Internet resources, writing a case history, an essay.

Work with educational literature is considered as a type of educational work in the discipline "Digital Technologies in Dentistry" and is performed within the hours allotted for its study (in the SIW section).

Each student is provided with access to the library funds of the Academy and the department.

Methodological recommendations for students and methodological instructions for teachers have been developed for each section of the academic discipline.

During the study of the discipline, they independently conduct an examination of patients, draw up a medical history and submit an abstract.

Writing an essay contributes to the formation of skills in working with educational literature, the systematization of knowledge and contributes to the formation of general cultural and professional skills.

Writing an educational medical history forms the ability to analyze medical problems, contributes to mastering the culture of thinking, the ability to correctly formulate its results in writing, the formation of a systematic approach to the analysis of medical information, and the perception of innovations.

The work of a student in a group forms a sense of collectivism and sociability.

Teaching students contributes to the development of their communication skills with the patient, taking into account the ethical and deontological characteristics of pathology and patients. Independent work with patients contributes to the formation of professional behavior, accuracy, discipline.

The initial level of knowledge of students is determined by testing, the current control of mastering the subject is determined by an oral survey during classes, during clinical reviews, when solving typical situational problems and answering test tasks.

At the end of the study of the module, an intermediate control of knowledge is carried out by interviewing, using test control and solving situational problems.

Module questions are included in the Final State Attestation of Graduates.

11. The list of information technologies used in the implementation of the educational process in the discipline:

Microsoft office
Microsoft PowerPoint
TestOfficePro testing software
Internet Explorer

12. Description of the material and technical base necessary for the implementation of the educational process in the discipline

The Department of Dentistry No. 3 is located on the basis of the SOGMA dental clinic (Kirov St., 66). The total area used by the department for the educational process is 283 m2.

The department has: phantom class (57 sq. m2),

educational and treatment room No. 13 - 18.4 m2 (one installation);

educational and treatment room No. 14 joint. with a training room - 21.6 m2. (one installation);

educational and treatment room No. 15 joint. with a study room -81 m2. (four settings);

educational and treatment room No. 25 joint. with a training room (three installations) -26.2 m2;

educational and treatment room No. 26 together with the office of the head of the department 31 m^2(two installations);

educational and methodical room No. 17 (10 m^2) ;

aassistant - 9 m2.

(Corridor 2nd floor - 15.3 m2. Corridor 3rd floor - 14.3 m2)

Part of the classes is held in the educational building No. 2 on the territory of the Federal State Budgetary Educational Institution of Higher Education SOGMA, in classrooms allocated for this purpose.

No./ P	equipment identification	Quantity	Technical condition
one	2	3	four
Special equipment			
one	notebook	one	good
2	projector	one	good

3	PC	3	good
four	Dental units	12	good
phantoms			
one	Dental phantom units	fifteen	satisfactory
dummies			
one	Preparation jaws	12	satisfactory

13. Conducting educational activities using e-learning and distance learning technologies

In the context of the introduction of restrictive measures (quarantine) associated with an unfavorable epidemiological situation, the threat of the spread of a new coronavirus infection and other force majeure events that do not allow training sessions in full-time mode, it is possible to study this discipline or part of it using e-learning and distance learning technologies.

Teaching discipline in the situations described above will be carried out through the development of an electronic course with access to video lectures and interactive course materials: presentations, articles, additional materials, tests and various tasks. When conducting training sessions, current monitoring of progress, as well as intermediate certification of students, the platforms of the electronic information and educational environment of the academy and / or other e-learning systems recommended for use in the academy, such as Moodle, Zoom, Webinar, etc., can be used.

Lectures can be presented in the form of audio, video files, "live lectures", etc.

Conducting seminars and practical classes is possible on-line in both synchronous and asynchronous modes. Seminars can be held in the form of web-conferences.