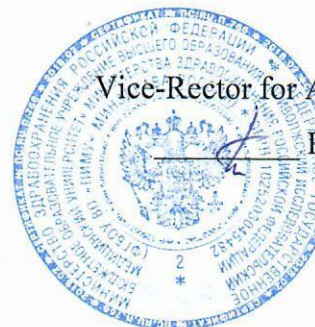


Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

WORKING PROGRAM

Name of the academic discipline **PATHOLOGICAL PHYSIOLOGY,
PATHOPHYSIOLOGY OF HEAD AND NECK**

Specialty: **31.05.03 DENTISTRY**
(code, name)

Qualification: **DENTIST**

Department: **PATHOLOGICAL PHYSIOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **180 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.03 DENTISTRY approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 984 of August 12, 2020.


Developers of the working program:

Potemina T.E. – M.D., Professor, Head of the Department of Pathological Physiology of FSBEI HE PRMU MOH Russia

Kuznetsova S.V. – M.D., Associate Professor, Associate Professor of the Department of Pathological Physiology of FSBEI HE PRMU MOH Russia


The program was reviewed and approved at the department meeting (protocol No 8, 26.08.2021)

Head of the Department,

M.D., Professor,  (Potemina T.E.)
(signature)

26.08.2021

AGREED

Deputy Head of EMA ph.d. of biology  Lovtsova L.V.
(signature)

26.08.2021

1. The purpose and objectives of mastering the academic discipline Pathological physiology, pathophysiology of head and neck (hereinafter – the discipline):

1.1. The purpose of mastering the discipline: participation in forming the relevant competencies UC 1, GPC 1,8,9, PC 1,6,12

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

Know:

concepts of etiology, pathogenesis, morphogenesis, principles of disease classification; basic concepts of general nosology; functional systems of the human body, their regulation and self-regulation when exposed to the external environment in normal and pathological processes; basic etiopathogenetic features of disease development; laws of genetics, its significance for medicine; patterns of heredity and variability in individual development as a basis for understanding the pathogenesis and etiology of hereditary and multifactorial diseases.

Be able to:

interpret the results of the most common methods of laboratory and functional diagnostics to identify pathological processes in the organs and systems of patients; substantiate the nature of the pathological process and its clinical manifestations, the principles of pathogenetic therapy of the most common disease, dental in particular; conduct pathophysiological analysis of symptoms and syndromes of diseases of the dental-maxillofacial region; use educational, scientific, popular science literature, and the Internet for professional activities; establish relationships between diseases of dentoalveolar area and general somatic diseases.

Possess:

medical and functional conceptual apparatus, skills in analyzing the main methods for assessing the functional state of the human body in various pathologies, including head and neck pathology.

2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.

2.1. The discipline Pathological physiology, pathophysiology of head and neck refers to the core part of Block 1 of GEP HE (Academic discipline index B.1. O.20.).

The discipline is taught in 3-4 semesters/ II year of study.

2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:

philosophy, Latin language

physics and maths

biology

biochemistry

human anatomy

histology

normal physiology

microbiology

hygiene

2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:

pathological anatomy

internal diseases

general surgery

obstetrics

infectious diseases

3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				to know	to be able to	to possess
1.	UC-1	UC-1 Able to carry out critical analysis of problem situations based on a systematic approach, develop a strategy for the actions	1.1 Knows: methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis 1.2 Able to: gain new knowledge based on analysis, synthesis, etc.; collect data on complex scientific problems related to the professional field; search for information and solutions based on actions, experiment and experience	the importance of pathophysiology for the development of medicine and public health; connection of pathophysiology with other medical- biological and medical disciplines	to solve professional tasks of a doctor based on pathophysiological analysis of specific data on pathological processes, conditions, reactions and diseases	principles of evidence-based medicine based on the search for solutions using theoretical knowledge and practical skills
2.	GPC-1	GPC-1 Able to implement moral and legal norms, ethical and deontological principles in the professional activity	1.1 Knows: fundamentals of medical ethics and deontology; fundamentals of legislation in the field of healthcare; legal aspects of medical activity	fundamentals of medical ethics and deontology based on knowledge of the etiopathogenesis of diseases	solve professional tasks of a doctor based on pathophysiological analysis using ethical and deontological principles	fundamentals of medical ethics and deontology based on knowledge of the etiopathogenesis of diseases

3.	GPC-8	GPC-8 Able to use basic physical and chemical, mathematical and natural science concepts and methods in solving professional problems	<p>8.1 Knows: basic physical and chemical, mathematical and natural science concepts and methods used in medicine</p> <p>8.2 Able to: interpret data from basic physical and chemical, mathematical, and natural science research methods when solving professional problems</p>	basic natural science concepts and methods used in pathophysiology	interpret data from basic blood tests, urine tests, acid-base balance, bilirubin metabolism, etc. when solving professional tasks	skills in analyzing the main methods for assessing the functional state of the human body and their specific results
4.	GPC-9	GPC-9 Able to assess morphofunctional states and pathological processes in the human body to solve professional problems	<p>9.1 Knows: pathological physiology of human organs and systems</p> <p>9.2 Able to: assess the main morphofunctional data, physiological conditions and pathological processes in the human body</p>	features of general pathophysiology, pathological physiology of human organs and systems, pathophysiology of head and neck.	to assess the main morphofunctional data, physiological conditions and pathological processes in the human body	skills in analyzing basic morphofunctional data for various pathological processes in the body
5.	PC-1	PC- 1 Able and ready to implement a set of measures aimed at preserving and strengthening health and including the formation of a healthy lifestyle of the patient (their relatives/ legal representatives). Prevention of the occurrence and / or spread of dental diseases, their early diagnosis, identification of the causes and conditions of occurrence and development, as well as prevention.	1.1 Knows: pathological physiology of the maxillary system, its relationship with the functional state of other body systems and the levels of their regulation	basic concepts of general nosology; pathological physiology of the maxillary system, its relationship with the functional state of other body systems and levels of their regulation	solve professional tasks of a doctor based on pathophysiological analysis of specific data on pathological processes, conditions, reactions and diseases of the maxillary system	skills in analyzing the relationship between the pathophysiological processes of the dental alveolar system and the functional state of other body systems
6.	PC-6	PC-6 Ready to collect and analyze complaints and other information from the patient (relatives/ legal representatives), his / her medical	6.1 Able to: interpret the results of examination, laboratory, instrumental and other studies in order to recognize the con-	basic results of laboratory and instrumental studies aimed at recogniz	conduct a pathophysiological analysis of clinical, laboratory,	skills in pathophysiological analysis of examination results,

		history, interpretation of the results of examination, laboratory, instrumental, and other studies in order to recognize the condition or establish the fact of the presence or absence of dental diseases, symptoms, syndromes of dental diseases	dition or establish the fact of the presence or absence of dental diseases, symptoms, and syndromes of dental diseases	ing the condition or establishing the presence or absence of a dental condition	experimental, and other data and formulate a conclusion based on them about the most likely causes and mechanisms of the development of pathological processes	laboratory, instrumental and other studies
7.	PC-12	PC-12 Able to participate in scientific research, analysis and public presentation of medical information based on evidence-based medicine and to participate in the introduction of new methods and techniques aimed at protecting public health and reducing dental morbidity.	<p>12.1 Knows: fundamentals of evidence-based medicine; main sources of medical information based on evidence-based medicine; methods and forms of public presentation of medical information; basic principles of medical scientific research</p> <p>12.2 Ability to:</p> <p>search for medical information based on evidence-based medicine;</p> <p>interpret data from scientific publications;</p> <p>critically evaluate modern methods of diagnosis, prevention and treatment of diseases from the point of view of evidence-based medicine;</p> <p>explain your choice of methods of diagnosis, prevention and treatment of dental diseases;</p> <p>prepare a presentation</p>	fundamentals of evidence-based medicine; main sources of medical information based on evidence-based medicine; methods and forms of public presentation of medical information; basic principles of medical scientific research	<p>Search for medical information based on evidence-based medicine;</p> <p>interpret data from scientific publication; critically evaluate modern methods of diagnosis, prevention and treatment of diseases from the point of view of evidence-based medicine;</p> <p>explain your choice of methods of diagnosis, prevention and treatment of dental diseases</p>	<p>Methods of searching for medical information based on evidence-based medicine;</p> <p>Methods of preparing a presentation of medical information, scientific research results</p>

			of medical information, and scientific research results			
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4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	UC 1 GPC 1,8,9 PC 1,6,12	General nosology	Subject and tasks of pathophysiology. Basic concepts of nosology. Pathogenic effects of external environmental factors. Modeling of major dental diseases.
2	UC 1 GPC 1,8,9 PC 1,6,12	Typical pathological processes	Acute non-specific cell injury. Features of the reaction of pulp cells, mucous membranes and of bone tissue for acute and chronic damage. Disorders of peripheral blood circulation and microcirculation. Microcirculation disorders in the development of pathological processes in maxillofacial region. Disorders of barrier functions of the body. Blood-salivary barrier. Acute inflammation. Etiology and pathogenesis of maxillofacial inflammatory processes. Sialoses and sialoadenitis: their pathogenesis, principles of modeling and diagnostics of salivary glands diseases. Wound healing. Pathology of the wound healing in the tissues of the dento-maxillofacial region. Fever. Overheating. Overcooling. Pathophysiology of water-salt metabolism. Edema. Pathophysiology of phosphorus-calcium metabolism, osteoporosis, osteomalacia. Pathophysiology of the acid-base balance (ABB). The role of ABB in the development of caries and inflammatory diseases, periodontal diseases and pathology of the oral mucosa. Pathophysiology of protein, lipids and carbohydrates' metabolism. The role of metabolic disorders in the development of pathology of the dento-maxillofacial region. Tumor growth. The most important etiological factors in the development of head and neck tumors. Hypoxia. The role of hypoxia in the development of dental diseases.
3	UC 1 GPC 1,8,9 PC 1,6,12	Pathophysiology of organs and systems	Pathophysiology of red blood cells. Mechanisms of disorders in the oral cavity tissues in different types of anemia. Pathophysiology of white blood cells. Changes in the oral in disorders of the white blood cells. Hemoblastosis: their pathogenesis and dental manifestations. Pathophysiology of hemostasis. Significance of hemostatic disorders in the development of dental diseases. Pathophysiology of external respiration. The role of respiratory disorders in the formation of the dental-maxillary system. Changes in external respiration with deformities of the jaws and diseases of the dento-maxillofacial region. Pathophysiology of the cardiovascular system. Heart failure. Coronary insufficiency. Cardiac arrhythmias. Disorders of vascular tone. Arterial hyper- and hypotension. Peculiarities of major dental diseases in

		<p>patients with arterial hypertension.</p> <p>Pathophysiology of the gastrointestinal system. Peptic ulcer disease. Relationship of gastrointestinal pathology with the state of the oral cavity.</p> <p>Pathophysiology of the liver. The role of liver pathology in the development of dental diseases.</p> <p>Pathophysiology of the kidneys. The role of kidney pathology in the development of diseases of dento-maxillofacial region.</p> <p>Pathophysiology of the nervous system. Pain.</p> <p>Pathophysiology of the endocrine system. Manifestations of endocrine pathology in stomatology.</p>
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5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters			
	volume in credit units (CU)	volume in academic hours (AH)	3		4	
Classroom work, including	2.4	86	44		42	
Lectures (L)	0.5	18	10		8	
Laboratory practicum (LP)*						
Practicals (P)	1.9	68	34		34	
Seminars (S)						
Student's individual work (SIW)	1.6	58	28		30	
Mid-term assessment						
exam	1	36			36	
TOTAL LABOR INTENSITY	5	180	72		108	

6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					total
		L	LP	P	S	SIW	
	General nosology	2		4		4	10
	Typical pathological processes	8		30		24	62
	Pathophysiology of organs and systems	8		34		30	72
	Exam						36
	TOTAL	18		68		58	180

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH	
		semester 3	semester 4
1	Introduction. Subject, sections and methods of pathophysiology. Basic concepts of general nosology	2	

2	Cell damage. Features of the reaction of pulp, mucosal and bone tissue cells to acute and chronic damage.	2	
3	Pathophysiology of inflammation.	2	
4	Typical disorders of the body's immunogenic reactivity. Immunopathological conditions (allergies, conditions and diseases of immune autoaggression, immunodeficiency states, pathological tolerance).	2	
5	Typical disorders of tissue growth. Tumors.	2	
6	Typical forms of pathology of the circulatory system.		2
7	Typical forms of blood system pathology. Typical forms of disorders in the hemostatic system.		2
8	Typical forms of digestive disorders in the stomach and intestines. Peptic ulcer disease. Liver pathology		2
9	Typical forms of pathology of the nervous system and higher nervous activity. Facial pain.		2
10	TOTAL (total - AH)	10	8

6.2.2. The thematic plan of laboratory practicums (*if this type of classes is stipulated in the curriculum*) - **this type of classes is not stipulated in the curriculum**

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		semester 3	semester 4
1.	Violation peripheral blood circulation. Arterial hyperemia, venous hyperemia, ischemia, stasis. Thrombosis and embolism, their role in the occurrence of ischemia and venous hyperemia. Violations microcirculation (intravascular, extravascular and vascular disorders).	5	
2.	Acute inflammation. Features of inflammation of dento-maxillofacial region.	5	
3.	Acute phase response Thermoregulatory disorders. Fever.	4	
4.	Tumor growth. Features of tumor growth in the maxillofacial region.	5	
5.	Immunopathology. Allergy	5	
6.	Violations acid-base state of the body. Violations of water metabolism. Edema. Disorders of electrolyte metabolism.	5	
7.	Disorders of carbohydrate metabolism. Extreme states. Stress (general adaptation syndrome).	5	
8.	Pathophysiology of red blood cells. Anemia and erythrocytosis. Mechanisms of disorders in the oral cavity tissues under various conditions types of anemia. Changes in the volume of circulating blood. Pathophysiology of hemostasis. Significance of hemostatic disorders in development of diseases of dento-maxillofacial region.		5
9.	Pathophysiology of white blood cells. Leukocytosis and leukope-		5

	nia. Changes in the oral cavity in disorders of white blood cells. Leukemoid reactions and leukemias. Dental manifestations and their pathogenesis in white blood cells pathology.		
10.	Pathophysiology of external respiration. The role of respiratory disorders in the formation of the dento-maxillofacial region. Changes in external respiration with deformities of the jaws and diseases of dento-maxillofacial region. Hypoxia.		5
11.	Pathophysiology of the cardiovascular system. Heart failure. Cardiac arrhythmias. Vascular tone pathophysiology: arterial hyper- and hypotension.		5
12.	Pathophysiology of the gastrointestinal tract. Peptic ulcer disease. Relationship of gastrointestinal pathology with the state of the oral cavity. Pathophysiology of the liver. The role of liver pathology in the development of dental diseases.		4
13.	Pathophysiology of the kidneys. The role of kidney pathology in the development of dental diseases.		5
14.	General etiology and general pathogenesis of endocrinopathies. Disorders of the hypothalamus and pituitary, thyroid, and adrenal glands.		5
	TOTAL (total - AH)	34	34

6.2.4. Thematic plan of seminars (*if this type of classes is stipulated in the curriculum*)-
this type of classes is not stipulated in the curriculum

6.2.5. Types and topics of student's individual work (SIW)

№	Types and topics of SIW	Volume in AH	
		semester 3	semester 4
	Work with literary sources	6	6
	Work with electronic resources located on the SDE-lectures-presentations, tests, situational tasks/cases	12	14
	Work with electronic resources located on the portal-video lectures and lectures	10	10
	TOTAL (total - AH)	28	30

7. Types of assessment formats for ongoing monitoring and mid-term assessment

№	Se- mester No.	Types of control		Name of section of academic discipline	Competence codes	Assessment formats		
						types	number of test questions	number of test task options
1.	5	Current monitoring	Control of mastering the topic	Etiology and pathogenesis. General nosology. Heredity. Reactivity. Resistance	UC 1 GPC 1,8,9 PC 1,6,12	tests		

				Constitution				
			Monitoring the student's individual work			tests	20	3
2.	5	Current monitoring	<i>Control of mastering the topic and monitoring the student's individual work</i>	Cell damage. Aging. Fasting. Influence of environmental factors.	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
3.	5	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Inflammation. Acute phase response. Fever.	UC 1 GPC 1,8,9 PC 1,6,12	tests, cases	20	3
4.	5	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Immunopathology. Allergies	UC 1 GPC 1,8,9 PC 1,6,12	tests, cases	20	3
5.	5	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Tumor growth	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
6.	5	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Metabolic disorders – water-electrolyte, acid-base, protein, lipids, carbohydrate	UC 1 GPC 1,8,9 PC 1,6,12	tests, cases	20	3
7.	5	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Extreme conditions	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
8.	5	Current monitoring	<i>control of mastering the topic and monitoring</i>	Pathophysiology of the blood system	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3

			<i>the student's individual work</i>					
9.	6	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Pathophysiology of the cardiovascular system	UC 1 GPC 1,8,9 PC 1,6,12	tests, cases	20	3
10.	6	Current monitoring	<i>control of mastering the topic</i>	Respiratory pathophysiology. Hypoxia.	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
11.	6	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Pathophysiology of the gastrointestinal tract. Liver pathophysiology.	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
12.	6	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Kidney pathophysiology	UC 1 GPC 1,8,9 PC 1,6,12	tests, cases	20	3
13.	6	Current monitoring	<i>control of mastering the topic and monitoring the student's individual work</i>	Pathophysiology of the nervous and endocrine system	UC 1 GPC 1,8,9 PC 1,6,12	tests	20	3
14.		Mid-term assessment	Exam			tests	50 + 50	10

8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Robbins and Cotran pathologic basis of disease / ed. by A.K. Abbas, J.C. Aster, V. Kumar; Kumar. - 9th ed. - Philadelphia : Elsevier Saunders, 2015. - 1391 p	40	
2	Pocket companion to Robbins and Cotran pathologic basis	70	

	of disease/ R.N. Mitchael, V. Kumar, A.K. Abbas, J.C. Aster. - 9th ed. - Philadelphia : Elsevier, 2018. - 823 p.	
3	Robbins and Cotran Pathologic Basis of Disease, International Edition, 8th Edition ISBN: 1416031219 ISBN-13(EAN): 9781416031215: Elsevier Science	

8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Clinical Pathophysiology. Concise lectures, tests, cases Litvitsky P.F., Pirozhkov S.V., Tezikov E.B. Moscow PUBLISHING GROUP: GEOTAR-Media, 2018. - 432 p.	2	
2	Color Atlas of Pathophysiology by Stefan Silbernagl, Florian Lang Publisher: Thieme (24 February 2016). - 448 p.	2	
3	Underwood's pathology: a clinical approach by Simon S. Cross. 7th edition. Edition: Elsevier. 2018.- 776 p.	5	

8.3. Electronic educational resources for teaching academic subjects

8.3.1. Internal Electronic Library System of the University (IELSU)

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	The PRMU Digital Library http://95.79.46.206/login.php	The PRMU Digital Library is a centralized repository of full-text documents: educational documents (textbooks, study guides, collections of tasks, training courses, lecture texts, teaching aids, laboratory works, practical tasks); scientific documents (monographs, collections of scientific papers, conference collections, abstracts of theses, theses); periodical and ongoing publications; reference publications. The main content includes the works of PRMU employees..	Access to digital library is open for PRMU employees and students from any computer on the Internet, using an individual login and password	Not limited

8.3.2. Electronic educational resources acquired by the University

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
1	A digital library «Student's Consultant» http://www.studmedlib.ru/	Educational materials (books, audio, video, interactive materials, test tasks) for high medical and pharmaceutical education.	Access to databases is open for PRMU employees and students from any computer on the Internet,	Not limited General Subscription of PRMU

			using an individual login and password	
2	A digital library «BookUp» http://www.books-up.ru/	Educational and scientific medical literature of Russian publishing houses, incl. translations of foreign publications.	Access to databases is open for PRMU employees and students from any computer on the Internet, using an individual login and password, from the computers of the academy. Subscribed editions are available for reading.	Not limited General Subscription of PRMU
3	Cochrane library https://www.cochranelibrary.com/	Cochrane Database of Systematic Reviews contains systematic reviews to answer a specific research question. Cochrane Central Register of Controlled Trials (CENTRAL) is a bibliographic source of randomized and quasi-randomized controlled trials. In addition to bibliographic information (author, source, year, etc.), CENTRAL records often include an abstract of the article. Cochrane Clinical Answers contains clinical questions, short answers and data on the results of the Cochrane Review, which are considered the most relevant for practicing medical professionals. The proofs are displayed in a user-friendly tabular format that includes descriptions, data, and links to graphs.	Access to databases The Cochrane Library is open for PRMU employees and students until 31.12.2022:	

8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
1	MedCram - Medical Lectures Explained CLEARLY https://www.youtube.com/user/MEDCRAMvideos/featured	Dr. Scheult is quadruple board certified (internal medicine, pulmonary, critical care, and sleep medicine) and an associate professor of medicine. He is the co-founder of https://www.medcram.com MedCram is trusted by thousands of clinicians, students, and universities with over 50 million video views and counting. Easy to follow, digestible medical videos	

		will help you understand more in less time. Short quizzes and case studies reinforce key concepts. In addition to our over 100 free MedCram medical videos, we've also created fast-paced and high yield comprehensive medical courses on a variety of topics (EKG/ECG, vasopressors, urinalysis, pulmonology, CBC results, cardiology, hematology, infectious disease, antibiotics, and more) for a reasonable cost. MedCram medical lectures are ideal for a variety of medical students, and professionals. MedCram videos are efficient - highlighting the key points without bogging down with too much information all at once.	
2	Harvard Medical School https://www.youtube.com/c/harvardmedicalschool/featured	Visiting the channel regularly enables to find fresh scientific discoveries, trends in biomedical research and education, profiles of thought leaders, conversations on health policy, and more.	
3	Lecturio Medical https://www.youtube.com/channel/UCbYmF43dpGHZ8gi2ugiXr0Q	Broaden medical knowledge with Lecturio's video lectures, integrated recall quizzes, enhanced medical concept library, and subject/NBME® exams! Lecturio Medical is all-in-one medical school study companion! Lecturio Medical is an excellent supplement for classes and clerkships, as well as for preparation for USMLE® Step 1 & 2 CK, COMLEX Level 1 & 2, and NBME® exams, MCAT, MBBS, NEET-PG, and more with video lectures integrated into a powerful question bank for active learning.	
4	iMedicalSchool https://www.youtube.com/c/iMedicalSchool/about	iMedicalSchool is dedicated to explaining complicated medical subjects to medical students, nurses, physician assistants, medical assistants, physicians, and patients.	
5	One Minute Medical School https://www.youtube.com/c/OneMinuteMedSchool/featured	Medical topics are broken down so the key point is presented understandably in sixty seconds by Dr. Rob Tarzwell, a Clinical Assistant Professor on the Faculty of Medicine at the University of British Columbia.	
6	Armando Hasudungan https://www.youtube.com/user/armandohasudungan/about	Armando Hasudungan is a physician trainee living in Sydney Australia. He makes these videos because he loves to create medical diagrams. They help us learn.	
7	Handwritten Tutorials https://www.youtube.com/user/harpinmartin/about	Handwritten Tutorials is a source of entirely FREE easy-to-understand medical tutorials.	

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

1. A lecture hall
2. Rooms for conducting practical classes 201-204, 212, 214, 219
- 9.2. List of equipment for classroom activities for the discipline
electrocardiographs, multimedia complex (laptop, projector, screen), TV, video camera, video recorder, PC, DVD players, monitors, multimediae visual materials on various topics of the discipline.

9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN100 30 LLC "Softline Trade" from 04.12.2020

10. List of changes to the working program (to be filled out by the template)

Federal State Budgetary Educational Institution of Higher Education
 "Privolzhsky Research Medical University"
 Ministry of Health of the Russian Federation
 (FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of
Pathological physiology

CHANGE REGISTRATION SHEET

working program for the academic discipline
PATHOLOGICAL PHYSIOLOGY, PATHOPHYSIOLOGY OF HEAD AND NECK

Field of study / specialty / scientific specialty: 31.05.03 DENTISTRY
 (code, name)

Training profile: DENTIST
 (name) - for master's degree programs

Mode of study: full-time
 full-time/mixed attendance mode/extramural

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting
 Protocol No. _____ of _____ 20__

Head of the Department
of Pathological physiology, professor / T.E. Potemina
 department name, academic title signature print name