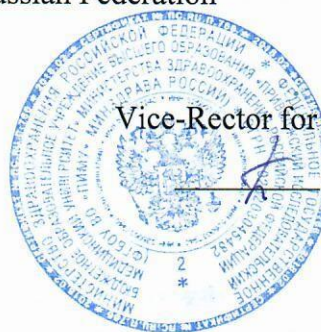


Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

**WORKING PROGRAM**

Name of the academic discipline: **Radiation Diagnostics**

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

Qualification: **DENTIST**

Department: **Department of Oncology, Radiation Therapy and Radiation Diagnostics**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **108 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 "STOMATOLOGY", approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 984 dated August 12, 2020.

**Developers of the working program:**

Maslennikova A.V., Doctor of Medical Sciences, Head of the Department of Oncology, Radiation Therapy and Radiation Diagnostics;  
Penin SV, Ph. D., assistant of the Department of Oncology, Radiation Therapy and Radiation Diagnostics.


The program was reviewed and approved at the department meeting (protocol No10, 21.04.2021)  
Head of the Department,  
Maslennikova A.V., Doctor of Medical Sciences, Head of the Department of Oncology, Radiation Therapy and Radiation Diagnostics



Maslennikova A.V.

21.04.2021

AGREED

Deputy Head of EMA ph.d. of biology  Lovtsova L.V.

(signature)

21.04.2021

## **1. The purpose and objectives of mastering the academic discipline Radiation Diagnostics (hereinafter – the discipline):**

1.1. The purpose of mastering the discipline: participation in the formation of competencies UC-1, GPC-1, GPC -2, GPC -5, GPC -9

1.2. Tasks of the discipline:

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

**Know:** - the principle of obtaining an image with radiation diagnostic methods (X-ray, ultrasound, radionuclide methods, computed and magnetic resonance imaging);

- diagnostic capabilities of various methods of radiation diagnostics;
- main radiation signs:
- Traumatic injuries of bones and joints;
- Osteomyelitis, tuberculosis, benign and malignant diseases of the osteoarticular system, osteochondrosis;
- Diseases of the lungs and heart;
- Diseases of the digestive system;
- "Emergency conditions";
- Diseases of the liver and gallbladder;
- Diseases in nephrology and urology;
- Vascular lesions;
- Diseases of the thyroid and mammary glands;
- Diseases injuries of teeth and jaws

### **Be able to:**

- collect and analyze information about the patient's health status;
- determine the feasibility, type and sequence of application of methods of radiation diagnostics. Identify the type of radiological examination;
- to establish contraindications to the use of methods of radiation diagnostics;
- give recommendations on preparation for radiation examination;
- identify the image of human organs and indicate their main anatomical structures on the results of radiation examinations (tomograms, radiographs, etc.);
- analyze the results of radiation diagnostics using the protocol of radiation examination or consultation of a specialist in radiation diagnostics;
- determine radiation signs of "emergency conditions" (intestinal obstruction, free gas in the abdominal cavity, pneumo-hydrothorax, traumatic injuries of bones and joints, cholelithiasis, urolithiasis);
- solve deontological issues related to radiation diagnostics and therapy;
- carry out independent work with educational, scientific and normative reference literature, as well as with medical sites on the Internet.

### **Possess:**

- Radiation anatomy;
- determination of indications and contraindications for radiation diagnostic studies;
- determination of changes on the presented radiographs, radiographs using the radiological examination protocol; analyze them.

## **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 Radiation Diagnostics refers to the core part of Block 1 of GEP HE (31.05.03 "DENTISTRY").

The discipline is taught in 5 semester/ 3 year of study.

**2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline: anatomy, physics, internal diseases, surgical diseases.**

**2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines: faculty therapy, occupational diseases; hospital therapy, polyclinic therapy, oncology and radiation therapy.**

**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:		
				know	be able to	possess
1.	UC -1	Capable realize critical analysis problem situations based on systemic approach, work out action strategy	UC 1.1 Knows the methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC 1.2 Able to acquire 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 action, experiment and experience UC 1.3 Has practical experience: researching the problem of professional activity using analysis, synthesis and other methods of intellectual activity; development of an action strategy for solving professional problems;	methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis, new knowledge based on analysis, synthesis, etc.; the method of collecting data on complex scientific problems related to the professional field; ways to search for information and solutions based on actions, experiment	receive new knowledge based on analysis, synthesis, etc.; collect data on complex scientific problems related to the professional field; to search for information and solutions based on actions, experiment and experience	has practical experience in studying the problems of professional activity using analysis, synthesis and other methods of intellectual activity; developing an action strategy to solve professional problems

				and experience		
2.	GPC -1	Able to assess the condition of a patient requiring medical care in emergency or emergency forms of	<p>GPC 1.1 Knows the etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the condition, the main medical indications for conducting research and interpreting the results in patients requiring medical care in emergency or emergency forms</p> <p>GPC 1.2 Can identify clinical signs of conditions requiring emergency or emergency medical care</p>	<p>etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the condition, the main medical indications for conducting research and interpreting the results in patients requiring medical care in emergency</p>	make a preliminary diagnosis with subsequent referral to a specialist doctor using diagnostic and differential diagnostic techniques, including the identification of signs of conditions requiring emergency or emergency medical care	methods and techniques of radiation examination of patients, the implementation of basic diagnostic measures in urgent and life-threatening conditions

				or emergency forms basic principles of radiation examination of patients, organization of planned and urgent radiation examination, rules for maintaining medical records to identify clinical signs of conditions requiring medical care in emergency or emergency forms		
3.	GPC -2	Able to analyze the results of their own activities to prevent professional errors.	<p>GPC 2.1 Knows: the procedures for providing medical care, clinical recommendations, taking into account the standards of medical care; methodology for analyzing the results of one's own activities</p> <p>GPC 2.2 Able to: analyze the results of examination and treatment of patients with dental diseases; draw up an action plan to prevent professional errors based on an analysis of the results of one's own activities</p> <p>GPC 2.3 Has practical experience: participation in a clinical (clinical and</p>	the procedures for providing medical care, clinical recommendations, taking into account the standards of medical care; methodology for analyzing the results of one's own activities	analyze the results of examination and treatment of patients with dental diseases; draw up an action plan to prevent professional errors based on an analysis of the results of one's own activities	Has practical experience: participation in a clinical (clinical and anatomical) conference to analyze errors in professional activity

			anatomical) conference to analyze errors in professional activity			
4.	GPC -5	Able to collect complaints, an anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient	GPC 5.1 Knows: Legislation of the Russian Federation in the field health care, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; patterns of functioning of a healthy human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental studies for assessing the state of health, medical indications for conducting studies, rules for interpreting their results	the legislation of the Russian Federation in the field of health protection, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features,	collect complaints, a history of life and illness of the patient and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, perkussia, auscultation) and interpretence its results; determination of volume, co-maintenance and after-completion of diagnostic measures  interpret the data obtained using various radiation diagnostic methods	GPC 5.3 Has practical experience in: collecting complaints, anamnesis of life and diseases in children and adults (their legal representatives), identifying risk factors and causes of diseases; examination and physical examination of children and adults; diagnosis of the most common diseases in children and adults; identification of risk factors for major cancers; formulating a preliminary diagnosis, drawing up a plan for instrumental, laboratory, additional studies, consultations with specialist doctors; referral of patients for

			<p>GPC 5.2 Able to:  collect complaints,  anamnesis of life and  disease of the patient  and analyze the  information received;  conduct a complete  physical examination  of the patient  (examination,  palpation, percussion,  auscultation) and  interpret its results;  determine the  sequence of volume,  content and sequence  of diagnostic  measures  GPC 5.3 Has  practical experience  in: collecting  complaints,  anamnesis of life and  diseases in children  and adults (their legal  representatives),  identifying risk  factors and causes of  diseases; examination  and physical  examination of  children and adults;  diagnosis of the most  common diseases in  children and adults;  identification of risk  factors for major  cancers; formulating  a preliminary  diagnosis, drawing up  a plan for  instrumental,  laboratory, additional  studies, consultations  with specialist  doctors; referral of  patients for  instrumental,  laboratory, additional  studies, consultations  of medical specialists  in accordance with  the current  procedures for the  provision of medical  care, clinical</p>	<p>complicatio  ns and  outcomes of  diseases of  internal  organs;  patterns of  functioning  of a healthy  human  body and  mechanisms  for ensuring  health from  the  standpoint  of the  theory of  functional  systems;  features of  the  regulation  of the  functional  systems of  the human  body in  pathological  processes;  methods of  laboratory  and  instrumenta  l studies for  assessing  the state of  health,  medical  indications  for  conducting  studies,  rules for  interpreting  their results</p> <p>features of  various  methods of  radiation  diagnostics,  the  possibilities  of domestic  and foreign</p>	<p>instrumental  , laboratory,  additional  studies,  consultation  s of medical  specialists  in  accordance  with the  current  procedures  for the  provision of  medical  care, clinical  recommend  ations,  taking into  account the  standards of  medical  care;  interpretatio  n of data  from  additional  (laboratory  and  instrumental  )  examination  s of  patients;  making a  preliminary  diagnosis in  accordance  with the  international  statistical  classificatio  n of  diseases and  related  health  problems  (ICD);  carrying out  differential  diagnostics  of diseases;  rarecognitio  n of  conditions  arising from</p>
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			<p>recommendations, taking into account the standards of medical care; interpretation of data from additional (laboratory and instrumental) examinations of patients; making a preliminary diagnosis in accordance with the international statistical classification of diseases and related health problems (ICD); carrying out differential diagnostics of diseases; rarecognition of conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care</p>	<p>equipment for diagnostics</p>		<p>sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care</p>
5.	GPC -9	<p>Able to assess morphofunctional states and pathological processes in the human body to solve professional problems</p>	<p>GPC 9.1 Knows anatomy, histology, embryology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems          GPC 9.2 Able to assess the basic morphological and functional data, physiological conditions and pathological processes in the human body          GPC 9.3 Has practical experience: assessment of basic morphological and functional data,</p>	<p>anatomy, histology, embryology , topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems</p>	<p>Able to assess the basic morphological and functional data, physiological conditions and pathological processes in the human body</p>	<p>Has practical experience: assessment of basic morphological and functional data, physiological conditions and pathological processes in the human body when solving professional problems</p>

			physiological conditions and pathological processes in the human body when solving professional problems			
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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	Introduction to radiation diagnostics. Biological bases of the impact of different types of radiation. Basic methods for obtaining medical images.	History of the discovery of X-rays. Properties of x-rays. Laws of skiology-shadow formation.
2.	UC-1 GPC-1 GPC -2	General issues of radiation diagnostics. Fundamentals of X-ray semiotics of the pathology of various organs and systems	Advantages and disadvantages of the main methods of radiation diagnostics.
3.	GPC-1 GPC-2 GPC -5 GPC -9	5 Particular issues of radiation diagnostics. Radiation diagnosis of diseases of the lungs and mediastinum. Radiation syndromes of lung injury. Radiation signs of diseases of the digestive system. Radiation signs of traumatic injuries of bones and joints.	Interpretation of data obtained in the study of the organs of the chest cavity is normal. Classifications of pneumonia. X-ray manifestations of pneumonia, depending on the stage. Round shadow syndrome in the lungs. Interpretation of radiographs with diseases of the gastrointestinal tract. Interpretation of radiographs with pathology of bones and joints.

**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)				

Classroom work, including	3	66			66	
Lectures (L)		14			14	
Laboratory practicum (LP)*						
Practicals (P)		52			52	
Seminars (S)						
Student's individual work (SIW)		42			42	
Mid-term assessment						
credit/exam ( <i>specify the type</i> )						
TOTAL LABOR INTENSITY	3	108			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	
	Introduction	2		2			4
	General issues of X-ray diagnostics	6		30		16	52
	Particular issues of X-ray diagnostics	6		20		26	52
	TOTAL	14		52		42	108

\* - 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 5	semester
	History of the development of world and domestic radiology. Discovery of X-rays. Theoretical foundations of radiation diagnostics. The value of discipline in the practice of a modern doctor	2	
	X-ray diagnostic method. Characteristics of various methods of X-ray examination. Registration of the image and the principles of its evaluation, reading radiographs. Modern methods of radiation diagnostics	2	
	Lungs and heart in beam image	1	
	Radiation diagnosis of lung diseases	6	
	Radiation diagnosis of diseases of the gastrointestinal tract	2	
	Radiation diagnosis of traumatic injuries and diseases of the osteoarticular system	1	
	TOTAL (total - AH)	14	

6.2.2. The thematic plan of laboratory practicums (Thematic plan of laboratory workshops - not provided by the VGOS)

#### 6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		semester 5	semester
1	X-ray image acquisition and registration	8	
2	Radiation syndromes of lung damage. Inflammatory lung disease	8	
3	Radiation diagnosis of lung tumor diseases	8	
4	Bone-articular system in the beam image	6	
5	Methods of radiation diagnostics in the study of the heart and mediastinum	6	
6	Radiation diagnosis of diseases of the esophagus, stomach, intestines	8	
7	Radiation diagnostics of diseases, injuries of teeth and jaws	8	
	TOTAL (total - AH)	52	

6.2.4. Thematic plan of seminars (Thematic plan of seminars is not provided by the VGOS)

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

№	Types and topics of SIW	Volume in AH	
		semester 5	semester
	X-ray image acquisition and registration		
	Radiation syndromes of lung damage. Inflammatory lung disease	6	
	Radiation diagnosis of lung tumor diseases	8	
	Bone-articular system in the beam image	6	
	Methods of radiation diagnostics in the study of the heart and mediastinum	8	
	Radiation diagnosis of diseases of the esophagus, stomach, intestines	2	
	X-ray image acquisition and registration	6	
	Radiation diagnostics of diseases, injuries of teeth and jaws	6	
	TOTAL (total - AH)	42	

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

№	Semester 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.		Control of mastering the topic	introduction			10	endless
		Monitoring the student's individual work					1

2.	Current monitoring	Control of mastering the topic	General issues of radiation diagnostics	10	endless
		Monitoring the student's individual work		2	endless
3.	Current monitoring	Control of mastering the topic	Special issues of radiation diagnosis	40	endless
		Monitoring the student's individual work		5	endless
4.	Mid-term assessment	Exam/ Credit	All Discipline Sections	40	endless

## 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	Radiation diagnostics: a textbook for universities. V.1 / ed. Gennady Evgenievich Trufanov. - M. : GEOTAR-Media, 2009. - 416 p. 616-073 L-871		50
2	Ternovoy Sergey Konstantinovich. Radiation diagnostics and therapy: textbook / Sergei Konstantinovich Ternovoy, Valentin Evgenievich Sinitsyn. - M. : GEOTAR-Media, 2010. - 304 p. 616-073 T-373		51
3	S. K. Ternovoy, A. Yu. Vasiliev, V. E. Sinitsyn, A. I. Shekhter: Educational literature for medical students. Shiko Publishing, Medicine. Release year 2013		
4	Armstrong, Peter. Diagnostic imaging /P. Armstrong, M.L. Wastie,A.G.Rockall. – 5 <sup>th</sup> ed. – [6.m.] Blackweii Publishing, 2004. – 460 c.		9
5	Guidelines for practical exercises in radiology [Electronic resource / comp. N.A. Terentyeva, M.A. Kuznetsova and A.A. Utkov; under total ed. N. E. Yakhontov; Ed. organization GGMI them. CM. Kirov. - Electron. data (2 Mb). - ( <a href="http://gma.nnov.ru:82/view.php?fDocumentId=845">http://gma.nnov.ru:82/view.php?fDocumentId=845</a> )		

### 8.2. Further reading

№	Name according to bibliographic requirements	Number of copies
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		at the department	in the library
1	Lindenbraten L. D. Medical radiology and radiology (fundamentals of radiation diagnostics and radiation therapy): a textbook for medical students / L. D. Lindenbraten and I. P. Korolyuk. - M. : Medicine, 2000 (1993). 616-073 L-59		187
2	Trufanov Gennady Evgenievich. Radiation therapy: textbook. V.2 / Gennady Evgenievich Trufanov, M. A. Asaturyan and G. M. Zharinov. - M. : GEOTAR-Media, 2009. - 192 p. 615.8 T-80.		50
3	Ternovoy Sergey Konstantinovich. Radiation diagnostics and therapy: textbook / Sergei Konstantinovich Ternovoy, Valentin Evgenievich Sinitsyn. - M. : GEOTAR-Media, 2010. - 304 p. 616-073 T-373.		51
4	Guidelines for practical classes in radiology: for 3rd year students / comp. N.A. Terentyeva, M.A. Kuznetsova and A.A. Utkov; under total ed. N. E. Yakhontov; Ed. organization GGMI them. CM. Kirov. - Gorky: GMI them. CM. Kirova, 1979. - 131 p. 616-073 M-545		114
5	Atlas of human radiation anatomy / V. I. Filimonov [and others]. -Moscow: GEOTAR-Media, 2010. -447 p.		1
6	Radiation human anatomy / ed. T.N. Trofimova. – St. Petersburg: SPbMAPO Publishing House, 2005. – 496 p.		1
7	Morozov, S.P. Multislice computed tomography / S. P. Morozov. -M.: GEOTAR-Media, 2009. -107 p.		1
8	Nasnikova, I. Yu. Ultrasound diagnostics: textbook. allowance / I. Yu. Nasnikova. -Moscow -GEOTAR-Media, 2010. -176 p		1
9	Sinitsyn, V. E. Magnetic resonance imaging: textbook. allowance / V.E. Sinitsyn, D.V. Ustyuzhanin. - M.: GEOTAR-Media, 2008. - 202 p.		1
10	Ehrlich, Ruth Ann. Patient care in radiography. With an introduction to medical imaging / R.A. Ehrlich, E.D. McCloskey, J.A. Daly. – 6th ed. - [b.m.] Mosby, 2004. - 447 p.: Ill. soft.		10

### 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
1	Internal electronic library system (VEBS)	Proceedings of the teaching staff of the academy: textbooks and teaching aids, monographs, collections of scientific papers, scientific articles, dissertations, dissertation abstracts, patents.	from any computer on the Internet, using an individual login and password [Electronic resource] - Access mode: <a href="http://95.79.46.20">http://95.79.46.20</a>	Not limited

			6/login.php	
8.3.2. Electronic educational resources acquired by the University				
<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
1	Electronic database "Student Advisor"	Educational literature + additional materials (audio, video, interactive materials, test tasks) for higher medical and pharmaceutical education. Publications structured by specialties and disciplines in accordance with the current Federal State Educational Standards of Higher Professional Education.	from any computer on the Internet, using an individual login and password mode: <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a> General subscription of PIMU	General subscription of PIMU
2	Electronic library system "Bu-kap"	Educational and scientific medical literature of Russian publishing houses, incl. translations of foreign publications.	from any computer located on the Internet by login and password, from the computers of the academy. Subscribed editions are available for reading. [Electronic resource] - Access mode: <a href="http://www.books-up.ru">http://www.books-up.ru</a>	General subscription of PIMU
3	"Bibliopisk"	Integrated search service "single window" for electronic catalogs, ELS and full-text databases. The results of a single search in the demo version include documents from domestic and foreign electronic libraries and databases available to the university as part of a subscription, as well as from open access databases.	For PIMU, access to the demo version of the Bibliopisk search engine is open: <a href="http://bibliosearch.ru/pimu">http://bibliosearch.ru/pimu</a>	General subscription of PIMU
4	Domestic electronic periodicals magazines	Periodicals of medical topics and higher education issues	- from academy computers on eLIBRARY.RU electronic library platform - magazines	

			Media Sphere - from the library computers or are provided library at the request of the user [Electronic Resource] - Access Mode: <a href="https://elibrary.ru">https://elibrary.ru</a>	
5	The international scientometric database "Web of Science Core Collection"	Web of Science covers materials on the natural, technical, social, and human sciences; takes into account mutual citation of publications developed and provided by Thomson Reuters; has built-in search, analysis and management of bibliographic information.	Free access from PIMU computers [Electronic resource] - Access to the resource at: <a href="http://apps.webofknowledge.com">http://apps.webofknowledge.com</a> Free access from PIMU computers	Free access from PIMU computers

### 8.3.3 Open access resources

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>
1	Federal Electronic Medical Library (FEMB)	Name of the electronic resource Brief description (content) Access conditions Includes electronic analogues of printed publications and original electronic publications that have no analogues recorded on other media (dissertations, abstracts, books, magazines, etc.). [Electronic resource] - Access mode: <a href="http://neb.rf/">http://neb.rf/</a>	from any computer on the Internet
2	Scientific electronic library eLIBRARY.RU	The largest Russian information portal in the field of science, technology, medicine and education, containing abstracts and full texts of scientific articles and publications. [Electronic resource] - Access mode: <a href="https://elibrary.ru/">https://elibrary.ru/</a> from any computer on the Internet	from any computer on the Internet
3	Scientific electronic library of open access CyberLeninka	Full texts of scientific articles with annotations published in scientific journals in Russia and neighboring countries. [Electronic resource] - Access mode: <a href="https://cyberleninka.ru">https://cyberleninka.ru</a>	from any computer on the Internet
4	Russian State Library (RSL)	Abstracts for which there are copyright agreements with permission for their open publication [Electronic	from any computer on the Internet



		resource] - Access mode: http://www.rsl.ru	
5	Reference and legal system "Consultant Plus"	Federal and regional legislation, judicial practice, financial advice, comments on legislation, etc. [Electronic resource] - Access mode: http://www.consultant.ru	from any computer on the Internet
6	Official website of the Ministry of Health of the Russian Federation	Clinical recommendations Access mode: cr.rosminzdrav.ru -	from any computer on the Internet
7	Official website of the Russian Respiratory Society	Modern materials and clinical guidelines for the diagnosis and treatment of respiratory diseases [Electronic resource] - Access mode: www.spulmo.ru	from any computer on the Internet
8	Official website of the Russian Scientific Society of Therapists	Modern materials and clinical guidelines for the diagnosis and treatment of diseases of internal organs [Electronic resource] - Access mode: www.rnmot.ru	from any computer on the Internet

## 9. Material and technical support for mastering an academic discipline

### 9.1. List of premises for classroom activities for the discipline

1. Lecture hall equipped with multimedia equipment and a microphone.
2. Rooms for practical training

### 9.2. List of equipment for classroom activities for the discipline

1. Multimedia complex
2. Information stands
3. A set of radiographs for diseases of the lungs, heart and stomach.
4. Tables.
5. Negatoscopes
6. Slides and multimedia presentations of lectures.
7. Video films "Radial diagnostics"
8. work programs: Office Professional Plus 2010, Windows Starter,  
<https://www.microsoft.com/Licensing/servicecenter/LicensingInfo>

### 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/HN10030 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  
*Name of the department*

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**CHANGE REGISTRATION SHEET**

working program for the academic discipline  
***NAME OF THE ACADEMIC DISCIPLINE***

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Field of study / specialty / scientific specialty: \_\_\_\_\_  
(code, name)

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

Mode of study: \_\_\_\_\_  
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

\_\_\_\_\_  
department name, academic title

\_\_\_\_\_  
signature

\_\_\_\_\_  
print name