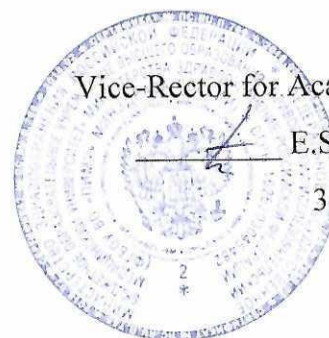


Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

WORKING PROGRAM

Name of the academic discipline: **RADIATION DIAGNOSTICS**

Specialty: **31.05.01 GENERAL MEDICINE**
(code, name)

Qualification: **GENERAL PRACTITIONER**

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

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **72 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.01 "General Medicine", approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 988 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, UC - 4, GPC-1, GPC -3, GPC -5.

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;

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 (31.05.01 "General Medicine").

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 and	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

				experience		
2.	UC -4	Able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction	<p>UC 4.1 Knows the basics of oral and written communication in Russian and business communication, modern means of information and communication technologies</p> <p>UC 4.2 Is able to express his thoughts in Russian and foreign languages in business communication</p> <p>UC 4.3 Has practical experience in: compiling texts in Russian and foreign languages related to professional activities; experience in translating medical texts from a foreign language into Russian;</p>	<p>experience of speaking in Russian and foreign languages, basics of oral and written communication in Russian and foreign languages, functional styles of the native language, requirements for business communication, modern means of information and communication technologies</p>	express one's thoughts in Russian and foreign languages in business communication	Has practical experience in: compiling texts in Russian and foreign languages related to professional activities; experience in translating medical texts from a foreign language into Russian; experience of speaking Russian and foreign languages
3.	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</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</p>	make a preliminary diagnosis with subsequent referral to a specialist doctor using diagnostic and differential diagnostic techniques, including the identification of clinical signs of conditions requiring emergency or emergency medical care	<p>methods and techniques of radiation examination of patients, the implementation of basic diagnostic measures in urgent and life-threatening conditions</p>

			<p>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>(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>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</p>	
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				forms		
4.	GPC -3	Able to provide emergency medical care to patients with sudden acute diseases, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient's life, provide emergency medical care to patients with conditions that threaten the patient's life, including clinical death (stopping vital functions of the human body (circulation and / or respiration)	GPC 3.1 Knows: the rules for conducting basic cardiopulmonary resuscitation; the principles of operation of devices for external electrical impulse therapy (defibrillation); the rules for performing external electrical impulse therapy (defibrillation) in case of sudden cessation of blood circulation and /or breathing GPC 3.2 Knows how to perform measures to provide medical care in urgent and emergency forms; basic cardiopulmonary resuscitation in combination with electrical impulse therapy (defibrillation)	rules for basic cardiopulmonary resuscitation; principles of operation of devices for external electropulse therapy (defibrillation);	rules for performing external electrical impulse therapy (defibrillation) in case of sudden cessation of blood circulation and / or respiration	have experience for performing external electrical impulse therapy (defibrillation) in case of sudden cessation of blood circulation and / or respiration
5.	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,	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	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 interpret its results; determinatio	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

			<p>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</p> <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</p> <p>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</p>	<p>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;</p>	<p>n of volume, co-maintenance and after-completion of diagnostic measures</p> <p>interpret the data obtained using various radiation diagnostic methods</p>	<p>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 recommendations, taking into account the standards of medical care; interpretation of data from additional (laboratory and instrumental)</p>
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			<p>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 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</p>	<p>methods of laboratory and instrumental 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 equipment for diagnostics</p>		<p>examination 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>
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			medical care			
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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 UC-4 GPC-1 GPC-3	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 radiology-shadow formation.
2.	UC-4 GPC-1 GPC-3 GPC-5	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-3 GPC-5	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	2	44			44	
Lectures (L)		10			10	
Laboratory practicum (LP)*						
Practicals (P)		34			34	
Seminars (S)						

Student's individual work (SIW)		28			28	
Mid-term assessment						
credit/exam (<i>specify the type</i>)						
TOTAL LABOR INTENSITY	2	72			72	

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
	General issues of X-ray diagnostics	2		4		2	8
	Particular issues of X-ray diagnostics	6		30		26	62
	TOTAL	10		34		28	72

* - 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	2	
	Radiation diagnosis of diseases of the gastrointestinal tract	2	
	Radiation diagnosis of traumatic injuries and diseases of the osteoarticular system	1	
	TOTAL (total - AH)	10	

6.2.2. The thematic plan of laboratory practicums (Thematic plan of seminars is 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	7	
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	4	
5	Methods of radiation diagnostics in the study of the heart and mediastinum	2	
6	Radiation diagnosis of diseases of the esophagus, stomach, intestines	5	
	TOTAL (total - AH)	34	

6.2.4. Thematic plan of seminars (if this type of classes is stipulated in the curriculum)

№	Name of seminar topics	Volume in AH	
		semester 5	semester
	Preparation of abstracts on radiodiagnosis of diseases of the chest and abdominal organs	1	
	TOTAL (total - AH)		

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	2	
	Radiation syndromes of lung damage. Inflammatory lung disease	6	
	Radiation diagnosis of lung tumor diseases	6	
	Bone-articular system in the beam image	2	
	Methods of radiation diagnostics in the study of the heart and mediastinum	2	
	Radiation diagnosis of diseases of the esophagus, stomach, intestines	6	
	TOTAL (total - AH)	28	

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.		Current monitoring	Control of mastering the topic	introduction			10	endless
			Monitoring the student's individual work					10

2.	Current monitoring	Control of mastering the topic	General issues of radiation diagnostics			10	endless
		Monitoring the student's individual work					endless
3.	Current monitoring	Control of mastering the topic	Special issues of radiation diagnosis			10	endless
		Monitoring the student's individual work					endless
4.	Mid-term assessment	Exam/ Credit	All Discipline Sections			10	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 th 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). - (http://gma.nnov.ru:82/view.php?fDocumentId=845)		

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: http://95.79.46.20	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: http://www.studmedlib.ru/ 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: http://www.books-up.ru	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: http://bibliosearch.ru/pimu	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: https://elibrary.ru	
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: http://apps.webofknowledge.com 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: http://neb.rf/	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: https://elibrary.ru/ 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: https://cyberleninka.ru	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

CHANGE REGISTRATION SHEET

working program for the academic discipline
NAME OF THE ACADEMIC DISCIPLINE

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