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



#### WORKING PROGRAM

#### Name of discipline: ULTRASOUND DIAGNOSTICS IN THE FIELD OF INTERNAL MEDICINE AND ENDOCRINOLOGY

#### Specialty: 31.05.01 GENERAL MEDICINE

#### Qualification: GENERAL PRACTITIONER

#### Department: ENDOCRINOLOGY AND INTERNAL MEDICINE

#### Mode of study: FULL-TIME

Labor intensity of the academic discipline: 72 academic hours

Nizhny Novgorod 2021 The work program was developed in accordance with the Federal State Educational Standard of Higher Education in the specialty 31.05.01 General Medicine, approved by order of the Ministry of Education and Science of the Russian Federation No. 988 dated August 12, 2020.

The compilers of the work program:

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Budkina M.L., Candidate of Medical Sciences, Associate Professor, Associate Professor of the Department of Endocrinology and Internal Diseases

Petrova E.B., Doctor of Medical Sciences, Associate Professor, Department of Endocrinology and Internal Medicine, Department of Radiation Diagnostics, FDPO

The program was reviewed and approved at a meeting of the department, protocol No. 01 June 2021

Head of the Department,	.1	
MD, PhD, Associate professor	Monne-	_ I.G. Pochinka

(signature)

01 June 2021

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

01 June 2021

**1.** The purpose and objectives of mastering the academic discipline Basics of ultrasound diagnostics in the clinic of internal diseases (hereinafter – the discipline):

**1.1. The main goal of mastering and teaching the discipline "Basics of ultrasound diagnostics in the clinic of internal diseases**": to participate in forming competencies provided for by the specialty study program in accordance with the GEP HE with advanced development of elements corresponding to the profile of the discipline being studied

#### **1.2.** Tasks of the discipline:

- Acquaintance of students with the role and importance of ultrasound diagnostics in therapy and endocrinology in the general system of medical science and practice.
- Mastering by students of the basic skills of ultrasound diagnostics in therapy and endocrinology in accordance with the program of the discipline

#### 1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

#### Know:

- 1. Physical and technical foundations of ultrasound diagnostics.
- 2. Indications for various methods of ultrasound diagnostics.

3. Terminology and basic methods of ultrasound diagnostics.

4. Methodology for ultrasound examination of the abdominal organs, heart, blood vessels and thyroid gland.

5. Fundamentals of ultrasound diagnostics of the abdominal organs, heart, blood vessels and thyroid gland.

6. Principles of differential diagnosis of pathology of the abdominal organs, heart, blood vessels and thyroid gland

#### Be able to:

1. Prepare the ultrasound scanner for work.

2. Select the required probe and examination settings.

3. Determine the indications for an ultrasound examination and write a referral for the study.

4. Write the ultrasound protocol and evaluate the ultrasound pathology of the abdominal cavity, heart, blood vessels and thyroid gland.

5. Follow the safety requirements when working on an ultrasound scanner.

#### **Possess:**

1. Skills of working with an ultrasound scanner:

- switch on the ultrasonic scanner and connecting various probes to it;

- switching in the course of research of various settings of ultrasonic scanning;

- adjusting the grayscale scanning and Doppler settings and selecting the optimal image parameters.

2. Principles of writing an ultrasound protocol.

3. Evaluation of the results of ultrasound in the context of the clinical picture.

# **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 "ULTRASOUND DIAGNOSTICS IN THE FIELD OF THE THERAPY AND ENDOCRINOLOGY" refers to the facultative discipline is teaching in 4<sup>th</sup> year of studying

**2.2.** To study the discipline the following knowledge, skills and abilities are necessary, formed by previous disciplines: normal and pathological anatomy, normal and pathological physiology, histology, propaedeutics of internal diseases.

**2.3.** Mastering the discipline is required for forming the following knowledge - not applicable in connection with the optional study of the discipline

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

Nº	Competen ce code	Content of the competenc e (or part of it)	Code and name of the competence acquisition metric	As a result of st must: know	udying the disciplir Be able to	ne, students Possess
1.	UC-1	Able to carry out critical analysis of problem situations on the basis of a systematic approach, to develop an action strategy	IUC 1.1 Knows: methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis IUC 1.2 Able to: gain new knowledge based on analysis,	methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis,	gain new knowledge on the basis of 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	skills in studying the problem of professional activity using analysis, synthesis and other methods of intellectual activity; development of an action strategy to solve professional problems

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

			.1 .	-		
			synthesis, etc.;			
			collect data on			
			complex			
			scientific			
			problems			
			related to the			
			professional			
			field; search			
			for			
			information			
			and solutions			
			based on			
			action,			
			experiment			
			and experience			
			IUC 1.3 Has			
			practical			
			experience:			
			-			
			researching the			
			problem of			
			professional			
			activity using			
			analysis,			
			synthesis and			
			other methods			
			of intellectual			
			activity;			
			developing an			
			action strategy			
			to solve			
			professional			
			problems			
2.	GPC-4	Able to	IGPC 4.1	Knows the	collect	Has practical
	_ `	use	Knows the	method of	complaints,	experience:
1		medical	method of	collecting	anamnesis of life	collecting
		devices	collecting	anamnesis of	and disease from	complaints,
		provided	anamnesis of	life and	patients (their	anamnesis of
					legal	
		for by the	life and	diseases,	representatives),	life and
		procedure	diseases,	complaints	identify risk	disease in
		for the	complaints	from patients	factors and	patients (their
		provision	from patients	(their legal	causes of disease	legal
		of medical	(their legal	representative	development;	representatives
		care, as	representatives	s); methods of	apply methods	), identifying
		well as to	); methods of	examination	of examination	risk factors
		conduct	examination	and physical	and physical	and causes of
		examinati	and physical	examination;	examination of	disease
		ons of the	examination;	clinical	patients;	development;
			examination,	cillicui	r,	actorphicm,

	-1::1		:	
patient in	clinical	picture,	interpret the	examination
order to	picture,	methods of	results of	and physical
establish a	methods of	diagnosis of	examination and physical	examination of
diagnosis	diagnosis of	the most	examination of	patients;
	the most	common	patients;	diagnosis of
	common	diseases;	diagnose the	the most
	diseases;	methods of	most common	common
	methods of	laboratory and	pathology in	diseases;
	laboratory and	instrumental	patients; identify	identification
	instrumental	studies to	cancer risk	of risk factors
	studies to	assess the	factorsзаболева	for major
	assess the state	state of health,	ний; formulate a	oncological
	of health,	medical	preliminary	diseases;
	medical	indications for	diagnosis, draw	formulation of
	indications for	conducting	up a plan for	a preliminary
	conducting	research, rules	laboratory,	diagnosis,
	research, rules	for	instrumental and	drawing up a
	for interpreting	interpreting	additional	plan for
	their results;	their results;	studies in	conducting
	the	the	patients in	instrumental,
	International	International	accordance with	laboratory,
	Statistical	Statistical	the procedures	additional
	Classification	Classification	for the provision of medical care,	studies,
	of Diseases	of Diseases	clinical	consultations
	and health-	and Health	recommendation	of specialist
	related	Problems	s, taking into	doctors;
	problems	(ICD);	account medical	referral of
	(ICD);	conditions	standardsпомощ	patients to
	conditions	requiring	и; refer patients	instrumental,
	requiring	emergency	to laboratory,	laboratory,
	emergency	medical care;	instrumental and	additional
	medical care;	the procedure	additional	studies,
	the procedure	for the use of	studies in	consultations
	for the use of	medical	accordance with	of specialist
	medical	devices in	the current	doctors in
	devices in	accordance	procedures for	accordance
	accordance	with the	the provision of	with the
	with the	current	medical care, clinical	current
	current	procedures for	recommendation	procedures for
	procedures for	the provision	s, taking into	the provision
	the provision	of medical,	account the	of medical
	of medical,	clinical	standards of	care, clinical
	clinical	recommendati	medical care;	recommendati
			refer patients for	
	recommendati	ons (treatment	consultations to	ons, taking
	ons (treatment	protocols) on	specialist	into account
	protocols) on	the provision	doctors in	the standards
	the provision	of medical	accordance with	of medical
	of medical	care,	the procedures	care;interpretat

r - r		• .	C (1 ) '	
	,	assistance	for the provision	ion of data
		aking into	of medical care,	from
	taking into a	account the	clinical	additional
	account the s	standards of	recommendation	(laboratory
	standards of n	nedical care	s, taking into	and
	medical care		account the	instrumental)
	IOPK 4.2 Is		standards of	examinations
	able to: collect		medical care;	of patients;
	complaints,		interpret and	making a
	anamnesis of		analyze the results of	preliminary
	life and		consultations by	diagnosis in
	disease in		specialist	accordance
	patients (their		doctors of	
	legal		patients;	International
	e		interpret and	
	representatives		analyze the	Classification
	), identify risk		results of the	of Diseases
	factors and		main (clinical)	
	causes of		and additional	and Related
	disease; apply		(laboratory,	Health
	methods of		instrumental)	Problems
	examination		methods of	(ICD);
	and physical		examination;	differential
	examination of		conduct	diagnosis of
	patients;		differential	diseases;
	interpret the		diagnosis of	-
	interpret the results of		diseases in	conditions that
			patients; identify	
	examination		clinical signs of	sudden acute
	and physical		sudden acute	diseases,
	examination of		diseases,	exacerbation
	patients;		conditions,	of chronic
	diagnose the		exacerbations of	diseases
	most common		chronic diseases	without
	pathology in		without obvious	obvious signs
	patients;		signs of a threat	of a threat to
	identify risk		to life, requiring	the patient's
	factors for		emergency modical coro:	life and
	cancer;		medical care; apply medical	requiring
	formulate a		apply medical devices in	
	preliminary		accordance with	medical care;
	diagnosis,		the current	the use of
	draw up a plan		procedures for	
	for laboratory,		the provision of	medical
	instrumental		medical, clinical	devices in
	and additional		recommendation	accordance
	studies in		s (treatment	with the
	patients in		protocols) on the	current
	accordance		provision of	procedures for
	with the		medical care,	the provision
	with the			

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		procedures for	care taking		of medical,
		the provision	account	the of	clinical
		of medical	standards medical care	01	recommendati
		care, clinical	medical care		ons (treatment
		recommendati			protocols) on
		ons, taking			the provision
		into account			of medical
		the standards			care, care
		of medical			taking into
		care; refer			account the
		patients to			standards of
		laboratory,			medical care
		instrumental			
		and additional			
		studies in			
		accordance			
		with the			
		current			
		procedures for			
		the provision			
		of medical			
		care, clinical			
		recommendati			
		ons, taking			
		into account			
		the standards			
		of medical			
		care; refer			
		patients for			
		consultations			
		to specialist			
		doctors in			
		accordance			
		with the			
		procedures for			
		the provision			
		of medical			
		care, clinical			
		recommendati			
		ons, taking			
		into account			
		the standards			
		of medical			
		care; interpret			
		and analyze			
		the results of			
		consultations			
		by specialist			
		by specialist			

r		
	doctors of	
	patients;	
	interpret and	
	analyze the	
	results of the	
	main	
	making a	
	preliminary	
	diagnosis in	
	accordance	
	with the	
	International	
	Statistical	
	Classification	
	of Diseases	
	and Related	
	Health	
	Problems	
	(ICD);	
	differential	
	diagnosis of	
	diseases;	
	recognition of	
	conditions that	
	occur in	
	sudden acute	
	diseases,	
	exacerbation	
	of chronic	
	diseases	
	without	
	obvious signs	
	of a threat to	
	the patient's	
	life and	
	requiring	
	emergency	
	medical care;	
	the use of	
	medical	
	devices in	
	accordance	
	with the	
	current	
	procedures for	
	the provision	
	of medical,	
	clinical	

			recommendati ons (treatment protocols) on the provision of medical care, care taking into account the standards of medical care			
3.	GPC-7	Able to prescribe treatment and monitor its effectiven ess and safety	GPC 7.1 Knows: methods of drug and non- drug treatment, medical indications for the use of medical devices in the most common diseases; groups of drugs used to provide medical care in the treatment of the most common diseases; the mechanism of their action, medical indications and contraindicatio ns to the appointment; compatibility, possible complications, side effects, undesirable reactions, including serious and unforeseen;	methods of drug and non- drug treatment, medical indications for the use of medical devices in the most common diseases; groups of drugs used to provide medical care in the treatment of the most common diseases; the mechanism of their action, medical indications and contraindicati ons to the appointment; compatibility, possible complications, side effects, undesirable reactions, including serious and unforeseen; features of the	develop a treatment plan for patients with the most common diseases in accordance with the procedures for the provision of medical care, clinical recommendation s, taking into account the standards of medical care; prevent or eliminate complications, side effects, undesirable reactions, including unforeseen ones, resulting from diagnostic or therapeutic manipulations, the use of drugs and (or) medical devices, non- drug treatment	skills in developing a treatment plan for patients with the most common diseases in accordance with the current procedures for the provision of medical care, clinical recommendati ons, taking into account the standards of medical care; providing medical care in emergency form to patients with the most common diseases, in accordance with the current procedures for the provision diseases, in accordance with the current procedures for the provision disease for disease common disease d

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features of the	provision of	the standards
provision of	medical care	of medical
medical care	in emergency	care; selection
in emergency	forms.	and
forms		prescription of
GPC 7.2 Is		medicines,
able to:		medical
develop a		devices with
treatment plan		the most
for patients		common
with the most		diseases for
common		the treatment
diseases in		of the most
accordance		common
with the		diseases in
		children and
procedures for		adults in
the provision of medical		accordance
		with the
care, clinical		current
recommendati		procedures for
ons, taking		the provision
into account		of medical
the standards		care, clinical
of medical		recommendati
care; prevent		ons, taking
or eliminate		into account
complications,		the standards
side effects,		of medical
undesirable		care;
reactions,		evaluation of
including		the efficacy
unforeseen		and safety of
ones, resulting		the use of
from		drugs, medical
diagnostic or		devices and
therapeutic		non-drug
manipulations,		treatment in
the use of		patients with
drugs and (or)		the most
medical		common
devices, non-		diseases;
drug treatment		
GPC 7.3 Has		selection and
practical		appointment of
experience in:		non-drug
developing a		treatment to
treatment plan		patients with
		the most

for patients	common
with the most	diseases in
common	accordance
diseases in	with the
accordance	procedures for
with the	the provision
current	of medical
procedures for	care, clinical
the provision	recommendati
of medical	ons, taking
care, clinical	into account
recommendati	the standards
ons, taking	of medical
into account	care;
the standards	prevention and
of medical	treatment of
care; providing	complications,
medical care	side effects,
in emergency	adverse
and emergency	reactions,
form to	including
patients with	unforeseen
the most	ones, arising
common	as a result of
diseases, in	diagnostic or
accordance	therapeutic
with the	manipulations,
current	the use of
procedures for	drugs and (or)
the provision	medical
of medical	devices, non-
care, clinical	drug
recommendati	treatment;
ons, taking	providing
into account	medical care
the standards	to patients
of medical	with sudden
care; selection	acute diseases,
and	conditions,
prescription of	exacerbation
medicines,	of chronic
medical	diseases
devices with	without
the most	obvious signs
common	of a threat to
diseases for	the patient's
the treatment	life in an
of the most	urgent form;
	urgent torm,

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common	the use of
diseases in	drugs and
children and	medical
adults in	devices in the
accordance	provision of
with the	medical care
current	in an
procedures for	emergency
the provision	form
of medical	
care, clinical	
recommendati	
ons, taking	
into account	
the standards	
of medical	
care;	
evaluation of	
the efficacy	
and safety of	
the use of	
drugs, medical	
devices and	
non-drug	
treatment in	
patients with the most	
common	
diseases;	
undesirable	
reactions,	
including	
unforeseen	
ones, resulting	
from	
diagnostic or	
therapeutic	
manipulations,	
the use of	
drugs and (or)	
medical	
devices, non-	
drug	
treatment;	
providing modical care	
medical care	
to patients	
with sudden	

			acute diseases, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient's life in an urgent form; the use of drugs and medical devices in the provision of medical care in Emergency			
4.	PC-1	Provision of primary health care to the population	PC-1 - Able to assess the need for therapeutic and diagnostic measures and prescribe their implementatio n in the pathologies studied within the discipline	Indications, limitations and contraindicati ons for the implementatio n of diagnostic and therapeutic measures within the framework of the studied disease	Assess the patient's condition and prescribe diagnostic and therapeutic measures depending on the result within the framework of the studied diseases	Skills in conducting examination and interpreting the results obtained, determining the tactics of diagnosis and treatment for the studied diseases

# 4. Sections of the academic discipline and competencies that are formed when mastering them

N⁰	Competence	Section name
	code	of the discipline
1.	UC-1	General questions of ultrasaund diagnostics
2.	GPC-4, GPC -7, PC-1	Particular issues of ultrasound diagnostics

## 5. Volume of the academic discipline and types of academic work

Types of classes	Labor	intensity
	volume in credit units	volume in academic hours
	(CU)	(AH)
classroom work, including	1	36
Lectures (L)	0,22	8
Laboratory practicum (LP)*	-	-
Practicals (P)	0,69	24
Seminars (S)	-	-
Student's individual work(SIW)	1	36
Mid-term assessment	0,11	4
TOTAL LABOR INTENCITY	2	72

Classroom work 36 hours, including: lectures 4-8 hours + intermediate certification of 3-6 hours (discussion of coursework, student presentations, reports on duty, etc.) + practical exercises = all remaining time Independent work - 36 hours

## 6. The content of the discipline.

## 6.1. Sections of the discipline and types of academic work

п∕ №	Name of the section of the academic discipline	Types of academic work* (in AH		in AH)			
		L	LP	Р	S	SIW	total
1.	General questions of ultrasaund diagnostics	2		3		2	5
2.	Particular issues of ultrasound diagnostics	6		21		34	28
3.	Mid-term assessment						4
	TOTAL	8		24		36	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

п/ №	Name of lecture topics	Volume in AH	
115			
1	Possibilities and limitations of ultrasound in the diagnosis of diseases	2	

2	US in pathology of the heart and magistral vessels	2
3	US in pathology of abdomen and kidneys	
4	US in pathology of the thyroid gland, lungs and joints	
	TOTAL (8 AH)	4

## 6.2.2. The thematic plan of laboratory practicums: not provided by FGES

## 6.2.3. Thematic plan of practicals

п/ №	Topics of practicals	Volume in AH
1	General ideas about ultrasound examination and applied technologies	3
2	Ultrasound diagnosis of the heart	3
3	Ultrasound diagnosis of arteries and veins	3
4	Ultrasound diagnosis of abdomen	3
5	Ultrasound diagnosis of retroperitoneal space	3
6	Ultrasound diagnosis of the thyroid gland and lungs	3
7	Ultrasound diagnosis of joints	3
8	Perspectives of ultrasound development	3
	TOTAL (18 AY)	24

## 6.2.4. Thematic plan of seminars: not provided by FGES

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

п/	Topics of selfstudying	Capacity in AH
N⁰		
1	Preparation for practical exercises based on the materials posted on the SDO portal	16
2	Preparation of a presentation on the description of a clinical case in scientific publications or the method of ultrasound examination	20
	TOTAL (total - 36 AH)	36

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

## 7.1. Key literature references

N⁰	Name according to bibliographic requirements	Numbe	er of copies
		at the depart ment	In the library
1	Clark, M. Clinical medicine / M. Clark, P. Kumar 8th ed Edinburgh : Saunders, 2012, 2009, 2005 - 1286 p.	-	2012-50 2009-11 2005-31
2	Haslett, C. Davidson's principles and practice of medicine / C. Haslett, Hunter J.A.A 19th ed Edinburgh : Churchill Livingstone, 2002, 2006 - 1274 p.	-	2002-20 2006-4

## 7.2. Further reading

N⁰	Name according to bibliographic requirements		Number of copies	
		At the	In the	
		depart	library	
		ment		
1	Sidney K. Edelman , Understanding Ultrasound Physics, Sidney K. Edelman - Esp; 3rd edition (December 31, 2003) 542 pages	-	-	
2	Anderson B., Basic to Advanced Clinical Echocardiography: A Self- Assessment Tool for the Cardiac Sonographer / Bonita Anderson, Margaret M. Park – LWW; 1st edition (June 10, 2020) – 650p	-	-	
3	Carol M. Rumack, Diagnostic Ultrasound / Carol M.Rumark, Deborah Levine - Elsevier; 5th edition (October 4, 2017) 2-Volume Set - 2658p.	-	-	

## 7.3. Electronic educational resources for teaching academic subjects

## 7.3.1. Internal Electronic Library System of the University (IELSU)

Name of the	Brief description (content)	Access conditions	Number of
electronic			users
resource			
Internal	Proceedings of the teaching	from any computer on the	Unlimited
electronic	staff of the academy:	Internet, using an individual	
library system	textbooks and manuals,		

(VEBS)	monographs, collections of	0 1
	scientific papers, scientific articles, dissertations, abstracts of dissertations, patents.	[Electronic resource] - Access mode: http://95.79.46.206/login.ph p

# 7.3.2. Electronic educational resources acquired by the University

Name of the electronic resource	Brief description (content)	Access conditions	Number of users
Electronic database "Student Advisor"	Educational literature + additional materials (audio, video, interactive materials, test tasks) for higher medical and pharmaceutical education. Editions are structured by specialties and disciplines in accordance with the current Federal State Educational Standards of Higher Professional Education.		General subscription of PIMU
Electronic library system "Bukap"	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
"Bibliopoisk"	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 Bibliopoisk search engine is open: http://bibliosearch.ru/pimu.	General subscription of PIMU

Domestic	Domestic electronic periodicals	-magazines	Free access
electronic periodicals		publishing house "Mediasphere" - from the computers of the library or provided library at the request of the user [Electronic resource] - Access mode: https://elibrary.ru/	from PIMU computers
The international scientometric database "Web of Science Core Collection"	Web of Science covers materials on natural, technical, social, and human sciences; takes into account the 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

# 7.3.3 Open Access Resources

Name of the electronic resource	Brief description (content)	Conditions of access
Federal Electronic Medical Library (FEMB)	Includes electronic analogues of printed publications and original electronic publications that have no analogues recorded on other media (dissertations, abstracts, books, magazines, etc.). [Elektronnyi resurs] – Mode of access: http:// neb.rf/	from any computer on the Internet
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
Scientific electronic library of open access CyberLeninka	Full texts of scientific articles with annotations, published in scientific journals of Russia and the near abroad. [Electronic resource] – Access mode: https://cyberleninka.ru/	from any computer on the Internet
Russian State Library (RSL)	Avtoreferaty, for which there are author's contracts with permission for their open publication	from any computer on the

	[Electronic resource] – Access mode: http://www.rsl.ru/	Internet
Reference and legal system "Consultant Plus"	Federal and regional legislation, judicial practice, financial consultations, comments on legislation, etc. [Electronic resource] – Access mode: http://www.consultant.ru/	from any computer on the Internet
Official website of the Ministry of Health of the Russian Federation	National clinical recommendations [Electronic resource] – Access mode: cr.rosminzdrav.ru - Clinical recommendations	from any computer on the Internet
Official websites of the Russian Respiratory Society, the Russian Society of Cardiology	Modern materials and clinical recommendations for the diagnosis and treatment of respiratory diseases, cardiovascular diseases [Electronic resource] – Access mode: www.spulmo.ru – Russian Respiratory Society www.scardio.ru – RSC	from any computer on the Internet
Official website of the Russian Scientific Society of Therapists	Modern materials and clinical recommendations for the diagnosis and treatment of diseases of internal organs [Electronic resource] – Access mode: www.rnmot.ru – Russian scientific society of therapists	from any computer on the Internet

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

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

- 1. 2 study rooms
- 2. Lecture hall
- 3. Ultrasound room

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

Multimedia projector

Notebook

Personal Computer

Ultrasound Scanner

Ultrasound simulator and dummies

medical couch

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

Ite m no.	Software	number of licenses	Type of software	Manufacture r	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovic h	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 TECHNOLO GIES"	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 Subscriptio n	
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

#### 9. 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

#### ENDOCRINOLOGY AND INTERNAL MEDICINE

#### **CHANGE REGISTRATION SHEET**

working program for the academic discipline

### BASICS OF ULTRASOUND DIAGNOSTICS IN THE CLINIC OF INTERNAL DISEASES

Field of study / specialty / scientific specialty: 31.05.01 MEDICAL BUSINESS (code, name)

Training profile:

(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

department name, academic title

signature

print name