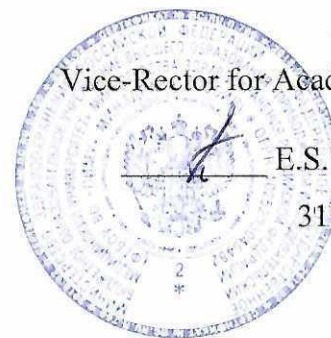


Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

## **WORKING PROGRAM**

Name of 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:

Pochinka I.G., MD, Head of the Department of Endocrinology and Internal Diseases


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,  
MD, PhD, Associate professor  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**

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

№	Competence code	Content of the competence (or part of it)	Code and name of the competence acquisition metric	As a result of studying the discipline, students must:		
				know	Be able to	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

			<p>synthesis, etc.; collect data on complex scientific problems related to the professional field; search for information and solutions based on action, experiment and experience</p> <p>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</p>			
2.	GPC-4	Able to use medical devices provided for by the procedure for the provision of medical care, as well as to conduct examinations of the	IGPC 4.1 Knows the method of collecting anamnesis of life and diseases, complaints from patients (their legal representatives); methods of examination and physical examination;	Knows the method of collecting anamnesis of life and diseases, complaints from patients (their legal representatives); methods of examination and physical examination; clinical	collect complaints, anamnesis of life and disease from patients (their legal representatives), identify risk factors and causes of disease development; apply methods of examination and physical examination of patients;	Has practical experience: collecting complaints, anamnesis of life and disease in patients (their legal representatives), identifying risk factors and causes of disease development;

		<p>patient in order to establish a diagnosis</p>	<p>clinical picture, methods of diagnosis of the most common diseases; methods of laboratory and instrumental studies to assess the state of health, medical indications for conducting research, rules for interpreting their results; the International Statistical Classification of Diseases and health-related problems (ICD); conditions requiring emergency medical care; the procedure for the use of medical devices in accordance with the current procedures for the provision of medical, clinical recommendations (treatment protocols) on the provision of medical</p>	<p>picture, methods of diagnosis of the most common diseases; methods of laboratory and instrumental studies to assess the state of health, medical indications for conducting research, rules for interpreting their results; the International Statistical Classification of Diseases and Health Problems (ICD); conditions requiring emergency medical care; the procedure for the use of medical devices in accordance with the current procedures for the provision of medical, clinical recommendations (treatment protocols) on the provision of medical care,</p>	<p>interpret the results of examination and physical examination of patients; diagnose the most common pathology in patients; identify cancer risk factors; formulate a preliminary diagnosis, draw up a plan for laboratory, instrumental and additional studies in patients in accordance with the procedures for the provision of medical care, clinical recommendations, taking into account medical standards; refer patients to laboratory, instrumental and additional studies in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; refer patients for consultations to specialist doctors in accordance with the procedures</p>	<p>examination and physical examination of patients; diagnosis of the most common diseases; identification of risk factors for major oncological diseases; formulation of a preliminary diagnosis, drawing up a plan for conducting instrumental, laboratory, additional studies, consultations of specialist doctors; referral of patients to instrumental, laboratory, additional studies, consultations of specialist doctors in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; interpretat</p>
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		<p>care, assistance taking into account the standards of medical care IOPK 4.2 Is able to: collect complaints, anamnesis of life and disease in patients (their legal representatives), identify risk factors and causes of disease; apply methods of examination and physical examination of patients;</p> <p>interpret the results of examination and physical examination of patients; diagnose the most common pathology in patients; identify risk factors for cancer; formulate a preliminary diagnosis, draw up a plan for laboratory, instrumental and additional studies in patients in accordance with the</p>	<p>assistance taking into account the standards of medical care</p>	<p>for the provision of medical care, clinical recommendations, taking into account the standards of medical care; interpret and analyze the results of consultations by specialist doctors of patients; interpret and analyze the results of the main (clinical) and additional (laboratory, instrumental) methods of examination; conduct differential diagnosis of diseases in patients; identify clinical signs of sudden acute diseases, conditions, exacerbations of chronic diseases without obvious signs of a threat to life, requiring emergency medical care; apply medical devices in accordance with the current procedures for the provision of medical, clinical recommendations (treatment protocols) on the provision of medical care,</p>	<p>ion 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); 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</p>
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		<p>procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; refer patients to laboratory, instrumental and additional studies in accordance with the current procedures for the provision of medical care, clinical recommendations, 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 recommendations, taking into account the standards of medical care; interpret and analyze the results of consultations by specialist</p>		<p>care taking into account the standards of medical care</p>	<p>of medical, clinical recommendations (treatment protocols) on the provision of medical care, care taking into account the standards of medical care</p>
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			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			
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			recommendations (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 effectiveness 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 contraindications 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 contraindications 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 recommendations, 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 recommendations, taking into account the standards of medical care; providing medical care in emergency and emergency form to patients with the most common diseases, in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account

		<p>features of the provision of medical care in emergency forms</p> <p>GPC 7.2 Is able to: develop a treatment plan for patients with the most common diseases in accordance with the procedures for the provision of medical care, clinical recommendations, 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</p> <p>GPC 7.3 Has practical experience in: developing a treatment plan</p>	<p>provision of medical care in emergency forms.</p>		<p>the standards of medical care; selection and prescription of medicines, medical devices with the most common diseases for the treatment of the most common diseases in children and adults in accordance with the current procedures for the provision of medical care, clinical recommendations, 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;</p> <p>selection and appointment of non-drug treatment to patients with the most</p>
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		<p>for patients with the most common diseases in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; providing medical care in emergency and emergency form to patients with the most common diseases, in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; selection and prescription of medicines, medical devices with the most common diseases for the treatment of the most</p>		<p>common diseases in accordance with the procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care; prevention and treatment of complications, side effects, adverse reactions, including unforeseen ones, arising as a result of diagnostic or therapeutic manipulations, the use of drugs and (or) medical devices, non-drug treatment; providing 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;</p>
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		<p>common diseases in children and adults in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care;</p> <p>evaluation of the efficacy and safety of the use of drugs, medical devices and non-drug treatment in patients with the most common diseases;</p> <p>undesirable reactions, including unforeseen ones, resulting from diagnostic or therapeutic manipulations, the use of drugs and (or) medical devices, non-drug treatment;</p> <p>providing medical care to patients with sudden</p>			<p>the use of drugs and medical devices in the provision of medical care in an emergency form</p>
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			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 implementation in the pathologies studied within the discipline	Indications, limitations and contraindications for the implementation 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**

№	Competence code	Section name of the discipline
1.	UC-1	General questions of ultrasound 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 (CU)	volume in academic hours (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
<b>TOTAL LABOR INTENCITY</b>	<b>2</b>	<b>72</b>

*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)					
		L	LP	P	S	SIW	total
1.	General questions of ultrasound diagnostics	2		3		2	5
2.	Particular issues of ultrasound diagnostics	6		21		34	28
3.	Mid-term assessment						4
	<b>TOTAL</b>	<b>8</b>		<b>24</b>		<b>36</b>	<b>72</b>

\* - 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
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 АЧ)	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
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

№	Name according to bibliographic requirements	Number of copies	
		at the department	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

№	Name according to bibliographic requirements	Number of copies	
		At the department	In the library
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)

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

(VEBS)	monographs, collections of scientific papers, scientific articles, dissertations, abstracts of dissertations, patents.	login and password [Electronic resource] - Access mode: <a href="http://95.79.46.206/login.php">http://95.79.46.206/login.php</a>	
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### 7.3.2. Electronic educational resources acquired by the University

<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>	<i>Number of users</i>
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.	from any computer on the Internet, using an individual login and password  [Electronic resource] - Access mode: <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a>	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: <a href="http://www.books-up.ru/">http://www.books-up.ru/</a>	General subscription of PIMU
"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

Domestic electronic periodicals	Domestic electronic periodicals	-magazines publishing house "Mediasphere" - from the computers of the library or provided library at the request of the user [Electronic resource] - Access mode: <a href="https://elibrary.ru/">https://elibrary.ru/</a>	Free access 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: <a href="http://apps.webofknowledge.com">http://apps.webofknowledge.com</a>	Free access from PIMU computers

### 7.3.3 Open Access Resources

<i>Name of the electronic resource</i>	Brief description (content)	<i>Conditions of access</i>
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: <a href="http://neb.rf/">http://neb.rf/</a>	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: <a href="https://elibrary.ru/">https://elibrary.ru/</a>	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: <a href="https://cyberleninka.ru/">https://cyberleninka.ru/</a>	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: <a href="http://www.rsl.ru/">http://www.rsl.ru/</a>	Internet
Reference and legal system "Consultant Plus"	Federal and regional legislation, judicial practice, financial consultations, comments on legislation, etc. [Electronic resource] – Access mode: <a href="http://www.consultant.ru/">http://www.consultant.ru/</a>	from any computer on the Internet
Official website of the Ministry of Health of the Russian Federation	National clinical recommendations [Electronic resource] – Access mode: <a href="http://cr.rosminzdrav.ru">cr.rosminzdrav.ru</a> - 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: <a href="http://www.spulmo.ru">www.spulmo.ru</a> – Russian Respiratory Society  <a href="http://www.scardio.ru">www.scardio.ru</a> –  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: <a href="http://www.rnmot.ru">www.rnmot.ru</a> – 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**

<b>Item no.</b>	<b>Software</b>	<b>number of licenses</b>	<b>Type of software</b>	<b>Manufacturer</b>	<b>Number in the unified register of Russian software</b>	<b>Contract No. and date</b>
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

**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

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*ENDOCRINOLOGY AND INTERNAL MEDICINE*

**CHANGE REGISTRATION SHEET**

working program for the academic discipline

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***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