

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: **CHRONOPHARMACOLOGY**

Specialty: **31.05.03 DENTISTRY**

Qualification: **DENTIST**

Department: **GENERAL AND CLINICAL PHARMACOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **36 academic hours**

Nizhny Novgorod
2021


The work program was developed in accordance with the Federal State Educational Standard HE - specialty in the specialty 31.05.03 Stomatology, approved by Order No. 984 of the Ministry of Education and Science of the Russian Federation dated August 12, 2020 (registered with the Ministry of Justice of the Russian Federation on 26.08.2020 No. 59473).

Developers of the working program:

Lovtsova L. V., Doctor of Medical Sciences, academic title-Associate Professor, Head of the Department of General and Clinical Pharmacology.

Sorokina Yu. A., Candidate of Biological Sciences, academic title-Associate Professor, Associate Professor of the Department of General and Clinical Pharmacology.

The program was reviewed and approved at the meeting of the Department (Minutes No. 7 of 09.06.2021)


Head of the Department of General and Clinical Pharmacology,  L. V. Lovtsova
Doctor of Medical Sciences, Associate Professor _____
09.06.2021 (signature)

REVIEWERS:

1. Professor of the Department of Pharmacology and Clinical Pharmacology with a course in Pharmaceutical Technology of the Medical Institute of the Ogarev National Research Mordovian State University of the Ministry of Science and Higher Education of the Russian Federation, Doctor of Medical Sciences, Professor A.V. Siprov.

2. Professor of the Department of Medical Physics and Informatics of the Federal State Budgetary Educational Institution of Higher Education "PIMU" of the Ministry of Health of the Russian Federation, Chairman of the cyclic Methodological Commission for Natural Science Disciplines, Doctor of Biological Sciences, Associate Professor S. L. Malinovskaya.

AGREED

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

09.06.2021

1. The purpose and objectives of mastering the academic discipline chronopharmacology (hereinafter – the discipline):

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies*).

1.2. Tasks of the discipline:

To compile the knowledge on biorhythm variability and pharmacokinetics and pharmacodynamics

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

Know:

- basic concepts of clinical chronopharmacology;
- biorhythm factors affecting the pharmacokinetics of medicinal products (drugs);
- features of pharmacokinetics and pharmacodynamics of drugs depending on the biorhythm polymorphism of the population.

Be able to:

- analyze the effect of drugs on the totality of their pharmacological properties and the possibility of using drugs for treatment, depending on the biorhythm polymorphism of the population.

Possess:

- practical experience in providing pharmaceutical information and advice on the release and sale of drugs, taking into account the biorhythm polymorphism of the population.

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 basics of chronopharmacology refers to the additional part (*or the part formed by the participants of educational relations*) of Block 1 (B1. UOO.E. 7) of GEP HE (Academic discipline index).

The discipline is taught in _5th ___ semester/_3rd year of study.

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

- *Latin language*
- *anatomy*
- *Biology*
- *Chemistry*
- *biochemistry*
- *Physiology*
- *Microbiology*
- *Pathology*

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

- *Clinical Pharmacology*
- *therapeutic stomatology*

-dental surgery

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	is Able to carry out a critical analysis of problem situations on the basis of a systematic approach to develop a strategy of action	<p>IUC 1.2. Knows how to acquire new knowledge on the basis of analysis, synthesis, etc.; to collect data on complex scientific issues related to the professional field; to search for information and solutions on the basis of action, experimentation and experience</p> <p>IUC 1.3 Has practical experience in the study of problems of professional activities with the use of analysis, synthesis and other methods of intellectual activity; developing action strategies for solving</p>	<ul style="list-style-type: none"> • basic concepts of clinical chronopharmacology; • biorhythm factors affecting the pharmacokinetics of medicinal products (drugs); features of pharmacokinetics and pharmacodynamics of medicinal products depending on the biorhythm polymorphism of the population 	<ul style="list-style-type: none"> • analyze the effect of drugs on the totality of their pharmacological properties and the possibility of using drugs for treatment in the future Based on the biorhythm polymorphism of the population 	<ul style="list-style-type: none"> • practical experience in pharmaceutical information and consultation during the release and sale of drugs taking into account the biorhythm polymorphism of the population

			professional problems			
2	PC-7	<u>is Able to apply drugs and medical devices in the provision of medical assistance in emergency and emergency forms</u>	<p>IPC 7.1. Knows: modern methods of use of medicines for diseases and conditions in accordance with the applicable procedures of medical care, clinical recommendations (treatment protocols) on the provision of medical care to meet the standards of medical care in the provision of medical assistance in emergency and emergency forms; the mechanism of action of drugs, medical indications and contraindications for their use; complications caused by their use of</p> <p>PCI 7.2. Able to prescribe drugs with consideration of diagnosis, age and</p>	<ul style="list-style-type: none"> • basic concepts of clinical chronopharmacology; • biorhythm factors affecting the pharmacokinetics of medicinal products (drugs); features of pharmacokinetics and pharmacodynamics of medicinal products depending on the biorhythm polymorphism 	<ul style="list-style-type: none"> • of the population. the effect of drugs on the totality of their pharmacological properties and the possibility of using drugs for treatment depending on the biorhythm polymorphism of the population 	<ul style="list-style-type: none"> • practical experience in pharmaceutical information and consultation during the release and sale of drugs taking into account the biorhythm polymorphism of the population

			clinical picture of the disease in accordance with the applicable procedures of medical care, clinical recommendations (treatment protocols) on the provision of medical assistance in emergency and emergency forms			
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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
	UC-1 (IUC-1.2, IUC-1.3), PC-7 (IPC-7.1)	Introduction. Subject and scientific and practical tasks of chronopharmacology.	Introduction to clinical chronopharmacology. Methodology of personalized medicine, principles of development, implementation and use of personalized medicine technologies for individualizing the use of medicines in clinical practice. Significance of chronopharmacology testing. Sources of chronopharmacology information. Organizational and ethical aspects of clinical chronopharmacology.
	UC-1 (IUC-1.2, IUC-1.3), PC-7 (IPC-7.1)	Biorhythm factors affecting the pharmacokinetics of drugs	Stages of pharmacokinetics, control of absorption, distribution, biotransformation and excretion of drugs by the corresponding genes. Biorhythm polymorphisms responsible for drug pharmacokinetics. Racial, ethnic, and sexual characteristics of drug pharmacokinetics.
	UC-1 (IUC-1.2, IUC-1.3), PC-7 (IPC-7.1)	Biorhythm factors affecting the pharmacodynamics of drugs	Biorhythm polymorphisms responsible for the pharmacodynamics of drugs. Changes in the pharmacological response in polymorphism of target organ tissue cells. Racial, ethnic and sexual characteristics of drug pharmacodynamics
	UC-1 (IUC-1.2, IUC-1.3), PC-7 (IPC-7.1)	Chronopharmacology of psychotropic drugs	polymorphisms responsible for the pharmacokinetics and pharmacodynamics of neurotropic drugs that regulate the functions of the peripheral nervous system and the functions of the central nervous system. Chronopharmacology testing.
	UC-1 (IUC-1.2,	Chronopharma	polymorphisms responsible for the pharmacokinetics and

IUC-1.3), PC-7 (IPC-7.1)	cology - bases of differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	pharmacodynamics of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes. Chronopharmacology testing.
UC-1 (IUC-1.2, IUC-1.3), PC-7 (IPC-7.1)	Chronopharmacology bases of differentiated use of antimicrobial and antiparasitic drugs	polymorphisms responsible for the pharmacokinetics and pharmacodynamics of antibacterial chemotherapeutic agents, synthetic antibacterial agents of different chemical structures (derivatives of quinolone, nitrofurantoin etc.), antiviral and antifungal drugs.

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)	5 semester
Classroom work, including	0,61	22	22
Lectures (L)	0,17	6	6
Laboratory practicum (LP)*			
Practicals (P)	0,44	16	16
Seminars (S)			
Student's individual work (SIW)	0,39	14	14
Mid-term assessment	Included in the final class structure		
credit			
TOTAL LABOR INTENSITY	1	36	36

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)					
		L	LP	P	S	SIW	total
	Introduction. Subject and scientific and practical tasks of chronopharmacology.	2	-	-		2	4
	Biorhythm factors affecting the pharmacokinetics of drugs	2	-	-		2	4

	Biorhythm factors affecting the pharmacodynamics of drugs	2	-	-		2	4
	Chronopharmacology of psychotropic drugs	-	-	4		2	6
	Chronopharmacology - bases of differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	-	-	6		2	8
	Chronopharmacology bases of differentiated use of antimicrobial and antiparasitic drugs Credit.	-	-	6		4	10
	TOTAL	6	-	16		14	36

* - 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
		5 semester
	Introduction. Subject and scientific and practical tasks of chronopharmacology.	2
	Biorhythm factors affecting the pharmacokinetics of drugs	2
	Biorhythm factors affecting the pharmacodynamics of drugs	2
	TOTAL (total - 6AH)	6

6.2.2. The thematic plan of laboratory practicums (*if this type of classes is stipulated in the curriculum*)

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH
		5 semester
	Chronopharmacology of psychotropic drugs	4
	Chronopharmacology bases of differentiated use of drugs that affect the functions of the digestive system	2
	Chronopharmacology bases of differentiated use of drugs that affect metabolic processes, inhibit inflammation and affect immune processes	4
	Chronopharmacology bases of differentiated use of antimicrobial and antiparasitic drugs	6

	Credit.	
	TOTAL (total – 16 AH)	16

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

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

№ n /	a Section of the discipline	Types and topics of SIW *	Volume in AC
			5 semester
1.	Subject and scientific and practical tasks of chronopharmacology	Work with literature sources; preparation for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.) Presenting a project on the topic: - "The history of the formation of chronopharmacology as a science"	2
2.	Biorhythm factors affecting the pharmacokinetics of medicines	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "The importance of chronopharmacology testing for rational dosage of medicines".	2
3.	Biorhythm factors affecting the pharmacodynamics of medicinal products	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Biorhythm polymorphism of target organ cells".	2
4.	Chronopharmacology - foundations of differentiated use of neurotropic drugs	Work with literature sources; preparation for interactive classes; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Chronopharmacology in psychopharmacology. Chronopharmacology bases of differentiated use of psychotropic drugs".	2
5.	5 Chronopharmacology - foundations of differentiated use of medicines that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	Work with literature sources; prepare for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.). Presenting a project on the topic: - "Chronopharmacology bases of differentiated use of steroid and nonsteroidal anti-inflammatory drugs".	2
6.	6 Chronopharmacology - bases of differentiated application of antimicrobial and	Work with literature sources; preparation for classes in an interactive form; work with electronic educational resources (SDS, EBS, etc.).	4

	antiparasitic drugs. Credit	Presenting a project on the topic: - "Chronopharmacology bases of differentiated use of antibiotics, antiviral and antifungal drugs".	
		TOTAL	14

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

№ n /	№ Semester	number Control forms	Name of the discipline section	Evaluation tools		
				types	number of questions in the task	number of options (test tasks)
1.	5	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Introduction. Subject and scientific and practical tasks of chronopharmacology	Tasks in the test form	free sample	Total for section 12
				Situational tasks	1	5
				Questions for the test	1	questions for section-2
				Project	1	1
2.	5	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Biorhythm factors affecting the pharmacokinetics of medicinal products	Tasks in the test form	free sample	Total for section 12
				Situational tasks	1	5
				Questions for credit	1	questions for section-3
				Project	1	1
3.	5	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Biorhythm factors affecting the pharmacodynamics of medicinal products	Tasks in the test form	free sample	total for section 12
				Situational tasks	1	5
				Questions for credit	1	questions for section-11
				Project	1	1
4.	5	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Chronopharmacology bases of differentiated use of neurotropic drugs	Tasks in test form	free sample	total for section 12
				Situational tasks	1	5
				Questions for credit	1	questions for section-11
				Project	1	1
5.	5	<ul style="list-style-type: none"> • CIW* • CTC • credit 	Chronopharmacology bases of differentiated use of drugs that affect the functions of the digestive system, regulate metabolic processes, inhibit inflammation and affect immune processes	Tasks in the test form	free sample	total for section 12
				Situational tasks	1	5
				Questions for the test	1	5
				Project	1	1
6.	5	<ul style="list-style-type: none"> • CIW* 	Chronopharmacology bases of differentiated	form Assignments	free sample	total for section 12

	<ul style="list-style-type: none"> • CTC • credit 	use of antimicrobial and antiparasitic drugs. Test	Situational tasks	1	5
			Test questions	1	5
			Project	1	1

Note: *CIW - control of the student's independent work, CAT - control of the current topic

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

№ n /	Name according to bibliographic requirements	Number of copies	
		Department	library
1.	Kharkevitch D. A. Pharmacology : textbook for medical students : translation of Russian textbook, 12th edition, revised and improved / D. A. Kharkevitch. – 2nd ed. – М. : ГЭОТАР-Медиа, 2019. – 680 p. : il. – ISBN 978-5-9704-4985-1. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=217114&idb=0	5	49
2	Alyautdin, R. N. Pharmacology : workbook. 1 / R. N. Alyautdin, N. G. Bondarchuk, D. A. Enikeeva ; Alyautdin, R. N. ; Enikeeva D. A. ; Bondarchuk N. G. – М. : ГЭОТАР-Медиа, 2010. – 252 с. : мяг. – ISBN 978-5-9704152-8-3. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=67103&idb=0	1	

8.2. Further reading

№ n /	Name according to bibliographic requirements	Number of copies	
		Department	library
1	Basic & clinical pharmacology / B. G. Katzung ; Katzung B. G. – 10th ed. – PK and PDton : McGraw-Hill, 2007. – 1179 с. : ил. мяг. – ISBN 978-0-07-126093-0. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=33926&idb=0	1	
2	Color atlas of pharmacology / D. Bieger, L. Hein, H. Lullmann, K. Mohr ; Lullmann H. ; Mohr K. ; Hein L. ; Bieger D. – 3rd ed. – Stuttgart : Thieme, 2005. – 402 с. : ил. мяг. – ISBN 3-13-781703-X. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=32972&idb=0	1	
3	Sorokina, Y. A. General pharmacology of cholinergic drugs : tutorial / Y. A. Sorokina, A. L. Barsuk, G. V. Rudakova. – N. Novgorod : Gladkova O. V., 2022. – 1 файл (6.66 Мб). – ISBN 978-5-93530-582-6. – Текст : электронный. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=231339&idb=0	100	
4	Sorokina, Y. A. General pharmacology of adrenergic drugs : tutoria / Y. A. Sorokina, A. L. Barsuk, G. V. Rudakova. – N. Novgorod : Gladkova O. V., 2022. – 1 файл (2.15 Мб). – ISBN 978-5-93530-583-3. – Текст : электронный. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=231337&idb=0	100	
5	Сорокина, Ю. А. Prescription writing = Выписывание рецептов : учебное пособие / Ю. А. Сорокина, А. Л. Барсук, Г. В. Рудакова. – Н. Новгород : Ремедиум Приволжье, 2020. – 1 файл (1.57 Мб). – ISBN 978-5-906125-78-1. – Текст : электронный.	100	

	Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=197653&idb=0	
6	General pharmacology of cardiovascular drugs = Фармакология лекарственных средств, влияющих на сердечно-сосудистую систему : tutorial / ed. by Yu. A. Sorokina. – Н. Новгород : Гладкова О. В., 2021. – 104 p. – ISBN 978-5-93530-560-4. Ссылка на библиографическое описание: http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=216716&idb=0	100

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
Internal Electronic Library System (EBS) http://nbk.pimunn.net/MegaPro/Web	Works of the university's teaching staff: textbooks, study guides, problem collections, methodological manuals, laboratory works, monographs, collections of scientific papers, scientific articles, dissertations, dissertation abstracts, patents	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	Not restricted

8.3.2. Electronic educational resources acquired by the University

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	EBS " Student's Consultant " (Electronic database "Student's Consultant". Database " Medicine. Healthcare (VO) and " Medicine. Healthcare (SPE)") http://www.studmedlib.ru	Educational literature, additional materials (audio, video, interactive materials, test tasks) for higher medical and pharmaceutical education	From any computer and mobile device using an individual username and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>

	Database " Doctor's Consultant. Electronic Medical Library" https://www.rosmedlib.ru	National guidelines, clinical guidelines, training manuals, monographs, atlases, pharmaceutical reference books, audio and video materials, ICD-10 and ATX	From any computer and mobile device using an individual login and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	Electronic library system "Bookup" https://www.books-up.ru	Educational and scientific medical literature of Russian publishing houses, including translations of foreign publications. Within the framework of the "Big Medical Library" project, publications of participating universities are available	from any computer and mobile device using an individual login and password; access is automatic from university computers. Publications from the "My books" section are available for reading. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	URAIT Educational Platform https://urait.ru	https://urait.ru A collection of publications on psychology, ethics, and conflict	management from any computer or mobile device using an individual username and password. Access mode: http://nbk.pimunn.net/MegaPro/Web	<i>unlimited</i>
	Electronic periodicals in the database " Scientific Electronic Library eLibrary" https://elibrary.ru	Electronic medical journals	From university computers. Access mode: https://elibrary.ru	<i>unlimited</i>
	Integrated Information and library system (IBS) of the scientific and educational medical cluster of the Volga Federal District – "Srednevolzhsky"	Electronic copies of scientific and educational publications from the collections of libraries participating in the scientific and educational medical	Access using an individual username and password from any computer or mobile device. Access mode:	<i>unlimited</i>

	(contract on a free basis)	cluster of the Volga Federal District "Srednevolzhsky"	websites of libraries participating in the project	
	Electronic reference and legal system "Consultant Plus" (contract on a free basis) http://www.consultant.ru	Regulatory documents regulating the activities of medical and pharmaceutical institutions	From the computers of the scientific library. Access mode: http://www.consultant.ru/He	<i>unlimited</i>
	National Electronic Library (NEB) (contract on a free basis) http://НЭБ.рф	Electronic copies of publications (including scientific and educational ones) on a wide range of knowledge	Scientific and educational works that have not been reprinted in the last 10 years are publicly available. Works restricted by copyright – from the computers of the scientific library. Access mode: http://НЭБ.рф	<i>unlimited</i>

8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
	PubMed https://www.ncbi.nlm.nih.gov/pubmed	Search engine of the National Library of Medicine of the USA for the databases "Medline", "PreMedline"	From any computer or mobile device. Access mode: https://www.ncbi.nlm.nih.gov/pubmed
	Directory of Open Access Journals http://www.doaj.org	Directory for open access to a full-text collection of periodicals	from any computer or mobile device. Access mode: http://www.doaj.org
	Directory of open access books (DOAB) http://www.doabooks.org	A directory of open access to a full-text collection of scientific books	from any computer or mobile device. Access mode: http://www.doabooks.org

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

For conducting lectures on the basis of the academic building No. 2 (BFK), there are:

- 2 lecture halls.

For conducting practical classes on the basis of the educational building No. 2 (BFK), there are:

- 6 study rooms with an area of 36,8, 26, 23,6, 21,2, 21,2, 21 m².

9.2. List of equipment for classroom activities for the discipline

Name	quantity
Based on academic building No. 2:	
Multimedia projectors:	
- Epson EMP-S3	1
-Epson	1
-BEAQMS	1
Laptops:	
- Fujitsu Siemens	1
- Lenovo	1
- Lenovo Idea Pad	1
- Lenovo Think Book	2
LCD TV	4
Screens	3
Whiteboards	5
Marker boards	4
Stands:	
- on the organization of the educational process at the department	1
-pharmacodynamics and pharmacokinetics of medicines	16

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	170	Office	Microsoft		23618/HN100

MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	Application	30 LLC "Softline Trade" from 04.12.2020
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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