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: **HUMAN ANATOMY OF ORGANS AND SYSTEMS (elective course)**

Specialty: **33.05.01 PHARMACY**
(code, name)

Qualification: **PHARMACIST**

Department: **HUMAN ANATOMY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **108 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 33.05.01 PHARMACY approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 219 of March 27, 2018

Developers of the working program:
Stelnikova I.G. - M.D., PhD., professor, Head of the Human Anatomy Department
Kurnikova A.A – candidate of medical science, assistant professor (docent), human anatomy department

The program was reviewed and approved at the department meeting (protocol No. 4, 21.04.2021)

Head of the Human Anatomy Department,
M.D., PhD., professor _____ Stelnikova I.G.
(signature)

21.04.2021

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

21.04.2021

1. The purpose and objectives of mastering the academic discipline HUMAN ANATOMY OF ORGANS AND SYSTEMS (elective course) (hereinafter – the discipline):

1.1. The purpose of mastering the discipline is participation in forming the UC-7.

1.2. Tasks of the discipline:

1. Acquisition by students of theoretical knowledge of morphology of the musculoskeletal system, splanchnology, angiology, neurology, estesiology, endocrine apparatus and organs of the immune system.

2. Mastering practical skills of working with anatomical preparations (bones, wet preparations, plastinated preparations, etc.), with cadaveric material.

3. Teaching students to take care of anatomical material as the remains of the human body.

4. Formation of skills for studying scientific literature and official statistical reviews.

5. Formation of initial skills of logical medical thinking.

6. Formation of communication skills within the student body and with teachers, as well as relationships with others.

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

Know:

- safety regulations and work in biological laboratories and anatomical rooms,
- structure and topography of organs and systems of the body in interaction with their function in norm and pathology,
- anatomical and physiological features of the structure of a healthy organism,
- general patterns of human ontogenesis

Be able to:

- use educational, scientific, popular science literature, the Internet for professional activities,
- palpate the main bone landmarks on a person, outline the topographic contours of organs and the main vascular and nerve trunks,

Possess:

- medical anatomical terminology

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 NORMAL ANATOMY OF ORGANS AND SYSTEMS (elective course) refers to the part formed by the participants of educational relations of Block 1 of GEP HE (60).

The discipline is taught in the fourth semester/ 2 year of study.

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

1. Theory of scientific knowledge; basic laws and categories of dialectics (Social sciences).

2. Knowledge of basic medical, anatomical and physiological terminology in Latin; the ability to use Latin anatomical terms; skills of reading and writing in Latin anatomical terms (Latin language).

3. Knowledge of the basic laws of physics, physical phenomena and processes; characteristics of the impact of physical factors on the body; physical phenomena underlying the processes occurring in the human body (Physics and Biophysics).

4. Knowledge of the theoretical foundations of computer science and the use of information computer systems in medicine; the ability to use the Internet (Computer science).

5. Knowledge of the general laws of the origin and development of life; anthropogenesis and ontogenesis of man; laws of genetics, general laws of heredity and variability in individual development (Biology).

6. Knowledge of chemical phenomena and processes; basic chemical laws and concepts; the ability to use chemical equipment (General chemistry and inorganic chemistry).

7. Knowledge of the chemical essence of the processes occurring in the human body at the molecular and cellular levels (Physical and colloidal chemistry. Organic chemistry. Analytical chemistry).

2.3. Mastering the discipline is required for forming the following knowledge, skills

and abilities for subsequent academic disciplines:

1. Knowledge of the chemical and biological essence of the processes occurring in the human body at the molecular and cellular levels; the role of cell membranes and their transport systems in metabolism (for Biochemistry).

2. Knowledge of the levels of organization of living systems and general properties of a living organism; general physical and physiological properties of biological fluids and tissues; general physiological patterns underlying the processes occurring in the human body; physiological processes occurring in human organs and systems; mechanisms of regulation of the body under the influence of factors of internal and external environment. The ability to apply medical and physiological terms; analyze the functional state of various cellular, tissue and organ structures; interpret the results of the most common methods of laboratory and functional diagnostics to identify pathological processes in human organs and systems. Possess medical anatomical terminology (for Pathology).

3. Knowledge of the general laws underlying the processes occurring in the body: membrane processes, ion transport, electrogenesis in cells, tissues and organs; possess medical anatomical terminology (for Pharmacology. Clinical pharmacology).

4. Knowledge of general physiological patterns underlying the processes of vital activity of the body; ability to interpret the results of pulse and blood pressure studies; Possess medical anatomical terminology (Life safety and emergency medicine).

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

Mastering the discipline aims at acquiring the following universal (UC) competency

№	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-7	Able to maintain the proper level of physical condition to ensure full-fledged social and professional activities	UC-7.1. Selects health-saving technologies to maintain the healthy lifestyle, taking into account physiological characteristics of the body UC-7.2. Plans working and free time for an optimal combination of physical and mental load and ensuring working capacity UC-7.3. Observes and promotes the norms of the healthy lifestyle in various life situations and in	safety regulations and work in biological laboratories and anatomical rooms, structure and topography organs and systems of the body in interaction with their function in norm and pathology, anatomical and physiological features of the structure of a healthy organism, general patterns of	use educational, scientific, popular science literature, the Internet for professional activities, palpate the main bone landmarks on a person, outline the topographic contours of organs and the main vascular and nerve trunks,	medical-anatomical terminology

			professional activities	human ontogenesis		

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-7	Introduction. Locomotor apparatus	The content of the subject. The concept of organs and organ systems. Anatomical terminology. Bones of the trunk and limbs. Cranium. Joints of bones. Muscles of the trunk, neck, head, limbs. Topography of muscles and fascia of the trunk, head, neck, limbs.
2	UC-7	Splanchnology	Organs of the digestive (alimentary) system. Organs of the respiratory system. Organs of the genital systems. Organs of urinary system.
3	UC-7	Immune system organs and lymph outflow pathways	General patterns of structure. Primary and secondary organs of the immune system. Lymphatic capillaries, vessels, trunks and ducts. Lymph nodes: structure and topography.
4	UC-7	Endocrine glands	Pituitary gland, epiphysis, thyroid gland, parathyroid glands, adrenal glands, endocrine part of the pancreas and genital organs.
5	UC-7	Cardiovascular system	Heart. Arteries of the lesser circle of blood circulation. Arteries of the greater circle: arteries of the head and neck, trunk and extremities. Veins.
6	UC-7	Neurology	The general structure. The central nervous system. Spinal cord. Brain: the telencephalon, the hemispheres. The brain stem. The diencephalon. The midbrain. The metencephalon. Pons, cerebellum, medulla oblongata, rhomboid fossa. The pathways of the central nervous system. The meninges of the spinal cord and brain. Peripheral nervous system. Cranial nerves, spinal nerves. Cervical, brachial, lumbar and sacral plexuses. Autonomous nervous system: sympathetic and parasympathetic parts.
7	UC-7	Sense organs	Eye, ear, organs of smell and taste. Skin.

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)	4
Classroom work, including	1,83	66	66
Lectures (L)	0,39	14	14
Laboratory practicum (LP)*			
Practicals (P)	1,44	52	52
Seminars (S)			
Student's individual work (SIW)	1,17	42	42
Mid-term assessment			
credit	-	-	-
TOTAL LABOR INTENSITY	3	108	108

6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total

1	Introduction. Locomotor apparatus	4		12		6	22
2	Splanchnology	6		15		8	29
3	Immune system organs and lymph outflow pathways			2		2	4
4	Endocrine glands			2		2	4
5	Cardiovascular system	2		6		10	18
6	Neurology	2		12		10	24
7	Sense organs			3		4	7
	TOTAL	14		52		42	108

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH
		4 semester
1	Introduction to human anatomy. Bony tissue. A hard skeleton. Bone as an organ. The cranium as a whole.	2
2	General arthrosyndesmology. The thoracic cage. The pelvis as a whole.	2
3	Splanchnology. Construction of the alimentary (digestive) organs	2
4	The respiratory system: nasal cavity, larynx, trachea, bronchi, lungs, pleura	2
5	The peculiarities of urinary organs	2
6	Structural components of the cardiovascular system: heart and arteries. Ontogenesis	2
7	The nervous system. Brainstem. Cerebellum. Diencephalon. Telencephalon. Ontogenesis	2
	TOTAL (total - AH)	14
	ADDITIONAL LECTURES	
	The cranium. Topography.	2
	Structural components of the cardiovascular system: veins. Ontogenesis	2
	The immune system. The lymphatic system. The endocrine system	2

6.2.2. The thematic plan of laboratory practicums (*this type of classes isn't stipulated in the curriculum*)

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH
		4 semester
1	Bone as an organ. Structure of vertebrae of different departments. Sacrum. Coccyx. A skeleton of the thoracic cage. Skeleton of the upper limb. Skeleton of the lower limb. Structure of the cranium. Neurocranium: frontal, occipital, ethmoidal, parietal bones.	3
2	The temporal bone. Bones of the facial cranium. Classification of joints. Joints between vertebrae. Joints of the thorax. Thoracic cage as a whole. Vertebral column as a whole. Joints between the vertebral	3

	column and skull. Joints of skull bones. Temporomandibular joint. Joints of the upper limbs. The pelvis as a whole. Joints of the free lower limbs.	
3	Superficial and deep muscles of the back. Muscles of the thorax and abdomen. Diaphragm. Topography of the trunk. Masticatory muscles. Mimetic muscles. Topography and fasciae of the. Muscles of the neck. Topography and fasciae of the neck and head.	3
4	The muscles of the shoulder girdle and arm. The muscles of the forearm and hand. The muscles of the pelvic girdle and thigh. The muscles of the leg and foot. Topography of the upper and lower limbs.	3
5	The oral cavity: the lips, oral vestibule, oral cavity proper, hard palate and soft palate, tongue. The deciduous and permanent teeth. The pharynx, oesophagus, stomach as organs. The small intestine and large intestine. The duodenum; caecum, vermiform appendix, rectum as organs.	3
6	Salivary glands. The liver. The gall bladder, the ducts of the gall bladder and the liver. The pancreas. The peritoneum, topography of the peritoneum at the upper storey (part), middle storey (part) and the lower storey (pelvic cavity) of the peritoneal cavity.	3
7	The external nose. The nasal cavity. The olfactory and respiratory regions. The larynx. The cartilages of the larynx, the junctions. The muscles of the larynx. The trachea, bronchi; structure, blood supply and innervation.	3
8	The lungs: topography. The segments of the lungs. The lesser circle. The pleura; parts, pleural cavity. The mediastinum; parts, topography. The projections of the lungs and pleura.	3
9	The kidneys. The excretory tree of the kidneys. The ureters, urinary bladder. The male and female urethra. The testis, the epididymis, structure. The coats of the testis. The prostate, the seminal vesicles, structure. The spermatic cord, its parts. The male external genital organs. The ovary. The uterus and uterine tubes. The muscles and fasciae of the male perineum and female perineum. The anatomy of the peritoneum in the male pelvis and female pelvis.	3
10	The organs of the immune system, the classification. The central and peripheral organs of the immune system. The spleen; structure (construction), topography. The endocrine organs. The classification. The thyroid gland; structure, function, topography, blood supply. The suprarenal glands; structure, function, topography. The hypophysis, epiphysis; topography, structure (construction).	4
11	The general anatomy of the blood vessels The heart: topography, structure (construction) of the wall, valves. The conducting system of the heart. Characteristics of the chambers of the heart. The pericardium. Pulmonary trunk. The branches of the aortic arch and thoracic aorta. The brachiocephalic trunk; external and internal carotid arteries. The subclavian artery; axillary and brachial arteries; arteries of the forearm and the hand. The parietal, visceral branches of the abdominal aorta. The common, external and internal iliac artery. The femoral artery, popliteal artery, arteries of the leg and the foot.	3
12	The peculiarities of vascularisation of the embryo, fetus and its changes after the birth. The superior vena cava, topography. The azygos and hemi-azygos veins, brachiocephalic veins, topography. The venous outflow from the head, the neck and the upper limb. The inferior vena cava, topography. The hepatic portal vein, topography. The anastomoses between the superior and inferior venae cavae. The anastomoses between the venae cavae and hepatic portal vein. The principles of the structure of the lymphoid organ (capillaries, vessels, trunks and ducts). The thoracic duct, topography. The classification of the lymph nodes. The lymphatic vessels and lymph nodes of the regions of body.	3

13	The classification of the nervous system. The spinal cord: external and internal features. The simple and avoidance reflex arches. The medulla oblongata, pons, midbrain (mesencephalon); external and internal features. The cerebellum. The fourth ventricle, walls. The rhomboid fossa. The diencephalon and third ventricle.	3
14	The telencephalon; sulci and gyri of the superolateral, medial and basal surfaces of the cerebral hemispheres. The rhinencephalon; basal nuclei. Lateral ventricles. The white matter of the telencephalon. The pathways of sensibility. The motor pathways. The meninges of the brain and spinal cord. The production and outflow (circulation) of the cerebrospinal fluid. The limbic system, the reticular formation, the extrapyramidal system.	3
15	The autonomic division (part) of the nervous system. The parasympathetic part of the autonomic division; the cranial and pelvic parts. The sympathetic part of the autonomic division; general characteristics of the sympathetic trunk. Cranial nerves. Motor, special sensory and mixed cranial nerves.	3
16	The spinal nerve. The posterior branches of the spinal nerves. The brachial plexus, topography, branches, regions of innervation. The lumbar plexus; topography, branches and regions of innervation. The sacral plexus, topography, branches and regions of innervation.	3
17	Anatomical and functional characteristics of the sensory organs. The external ear, middle ear. The internal ear; the bony and the membranous labyrinths. The auditory and vestibular analyzers. The organ of vision; the fibrous coat, the vascular coat of the eyeball. The mechanism of the accommodation. The retina. The chambers, lens, vitreous body. Accessory visual structures; extra-ocular muscles. The visual analyzer. The anatomy of the skin and of its derivatives. The mammary gland. The organ of taste. The organ of smell. The taste (gustatory) analyzer. The smell analyzer.	3
	TOTAL (total - AH)	52

6.2.4. Thematic plan of seminars (*this type of classes isn't stipulated in the curriculum)*

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

№	Types and topics of SIW	Volume in AH
		4 semester
1	**Locomotor apparatus:** Recognizing structures in electronic atlases Finding structures on preparations in the anatomical rooms Rewriting theoretic abstracts from modules and presentations of department	 1 4 1
2	**Splanchnology** Recognizing structures in electronic atlases Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum Rewriting theoretic abstracts from modules and presentations of department	 2 4 1 1
3	**Immune system organs and lymph outflow pathways** Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum	 1 1
4	**Endocrine glands**	

	Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum	1 1
5	**Cardiovascular system** Recognizing structures in electronic atlases Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum Rewriting theoretic abstracts from modules and presentations of department	 1 6 1 2
6	**Neurology** Recognizing structures in electronic atlases Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum Rewriting theoretic abstracts from modules and presentations of department	 2 5 1 2
7	**Sense organs** Recognizing structures in electronic atlases Finding structures on preparations in the anatomical rooms Finding structures on preparations in the anatomical museum	 1 2 1
	TOTAL (total - AH)	42

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

№	Semester No.	Types of control		Name of section of academic discipline	Competence codes	Assessment formats		
						types	number of test questions	number of test task options
1.	4	Current monitoring	Control of mastering the topic	Introduction. **Locomotor apparatus**	UC-7	Written testing	3	10
			Monitoring the student's individual work	Introduction. **Locomotor apparatus**	UC-7	Preparations control Written control / interview	15 5	10
	4		Monitoring the student's individual work	**Splanchnology**	UC-7	Written testing Preparations control Written control / interview	10 15 5	10
	4		Monitoring the student's individual work	**Immune system organs and lymph outflow pathways**	UC-7	Written control	3	10

	4		Monitoring the student's individual work	**Endocrine glands**	UC-7	Written control	3	10
	4		Monitoring the student's individual work	**Cardiovascular system**	UC-7	Written control / interview	3	10
	4		Monitoring the student's individual work	**Neurology**	UC-7	Written control / interview	3	10
	4		Monitoring the student's individual work	**Sense organs**	UC-7	Written testing	5	10
2.	4	Mid-term assessment	credit	All sections	UC-7	Written testing Preparations control Oral answers	10 15 3	10

The written testing includes 10 questions (sample attached)

001. Compare the name of the plane and the division of the human body by it.
A. Frontal plane:
B. Horizontal plane:
C. Sagittal plane:
1. Right and left halves
2. Upper and lower parts
3. Front and back parts
002. Specify due to which anatomical formations the bone grows in length.
a – periosteum
b – metaepiphyseal cartilage
c – endosteum
d – articular cartilage
003. Name the structures of the bone as an organ.
a - compact bone tissue
b – periosteum
c – spongy bone tissue
d – vessels and nerves
004. Name the processes that are main elements of the vertebra.
a – spinous
b – articular
c – transverse
d – mastoid
005. Specify the parts belonging to the second cervical vertebra (axis).
a – body
b – arch
c – dens
d – lateral massae
006. Specify the anatomical characteristic of typical thoracic vertebrae.
a – superior and inferior costal facets
b – costal process
c – transverse costal facet
d – accessory process
007. Name the parts of the sacrum:
a – body
b – head
c – base
d – apex
008. Note the anatomical and functional features of the vertebral column.
a – the thoracic spine is the most mobile
b – participates in the formation of the posterior wall of the thoracic and abdominal cavities
c – the movements of the spinal column are caused by respiratory movements
d – in old age the thickness of the intervertebral discs decreases
009. Name the main parts of the sternum.
a – manubrium
b – body

c – apex
d – xiphoid process
010. What are the ribs?
a – true
b – false
c – lateral
d – floating
Answers
001. A 3 B 2 C 1
002. B
003. A B C D
004. A B C
005. A B C
006. A C
007. C D
008. B D
009. A B D
010. A B D

Preparations control consists of demonstration of 15 anatomical structures on the preparations, models, plates

Oral cavity
Thoracic part of oesophagus
Transverse colon
Head of pancreas
Nasal bone
Thyroid cartilage
Cervical part of trachea
Base of lung
Lateral border of kidney
Renal columns
Abdominal part of ureter
Ovary
Fundus of uterus
Epididymis
Prostatic urethra

Written control / interview includes 3 questions

The oral cavity, oral vestibule and oral cavity proper, walls.
To compare the small intestine and large intestine.
To draw the scheme of the production and outflow of the bile.

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	Sapin, M. R. Textbook of human anatomy : for medical students. 1 / M. R. Sapin, L. L. Kolesnikov, D. B. Nikitjuk ; Sapin M. R. ; Kolesnikov L. L. ; Nikitjuk D. B. – 2nd ed. – Moscow : New Wave Publisher, 2007. – 416 c. : ил. тв. – ISBN 978-5-7864-0210-1.	177	
2	Sapin, M. R. Textbook of human anatomy : for medical students. 2 / M. R. Sapin, L. L. Kolesnikov, D. B. Nikitjuk ; Sapin M. R. ; Kolesnikov L. L. ; Nikitjuk D. B. – Moscow : New Wave Publisher, 2005. – 480 c. : тв. – ISBN 5-7864-0211-8.	174	

8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	**Textbook of human anatomy**. – 2018. Locomotor apparatus. Vol. 1 / **Kolesnikov**, L. L. ; Nikityuk, D. B. ; Klochkova, S. G. ; Stelnikova, I. G. – Moscow : GEOTAR-Media, 2018. – 288 p. : il. – ISBN	177	

	9785970440384.	
2	**Textbook of human anatomy**. – 2018. Splanchnology and cardiovascular system. Vol. 2 / **Kolesnikov**, L. L. ; Nikityuk, D. B. ; Klochkova, S. G. ; Stelnikova, I. G. – Moscow : GEOTAR-Media, 2018. – 320 p. : il. – ISBN 9785970445402.	146
3	**Textbook of human anatomy**. – 2018. Nervous system. Esthesiology. Vol. 3 / **Kolesnikov**, L. L. ; Nikityuk, D. B. ; Klochkova, S. G. ; Stelnikova, I. G. – Moscow : GEOTAR-Media, 2018. – 216 p. : il. – ISBN 9785970445624.	148

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	Билич, Г. Л. Анатомия человека. Т. 2 : атлас в трех томах / Г. Л. Билич, В. А. Крыжановский, В. Н. Николенко. – М. : ГЭОТАР-Медиа, 2012. – 696 с. : ил. мяг. – ISBN 978-5-9704201-4-0.	Atlas in Russian, English, Latin	http://nbk.pimunn.net/MegaPro/UserEntry?Action=Link_FindDoc&id=86906&idb=0	

8.3.2. Electronic educational resources acquired by the University

№	*Name of the electronic resource*	*Brief description (content)*	*Access conditions*	*Number of users*
1	Topographic and clinical anatomy of the human body : the teaching aid for foreign students / I. I. Kagan, S. N. Lyashchenko, A. O. Mironchev - Москва : ГЭОТАР-Медиа, . - ISBN 978-5-9704-6560-8. - Текст : электронный // ЭБС "Консультант студента" : [сайт].	Textbook	URL : https://www.studentlibrary.ru/book/ISBN9785970465608.html (дата обращения: 28.11.2022). - Режим доступа : по подписке	

8.3.3 Open access resources

№	*Name of the electronic resource*	*Brief description (content)*	*Access conditions*
1	GEISEL SCHOOL OF MEDICINE at Dartmouth DEPARTMENT OF MEDICAL EDUCATION	Study modules	https://anatomy.host.dartmouth.edu/
2	BASIC HUMAN ANATOMY A Regional Study of Human Structure	Textbook	https://humananatomy.host.dartmouth.edu/BHA/public_html/

9. Material and technical support for mastering an academic discipline

9.1. List of premises for classroom activities for the discipline

1. anatomical museum, 120 sq. m, consisting of three halls equipped with showcases with wet, dry, mummified and corrosive preparations, “Pirogov’s table”.

2. anatomical rooms (10), 500 sq.m, equipped with monitor, two sectional tables, anatomical baths for storing wet preparations, stretchers.

3. department of storage of anatomical preparations (biological material) consisting of 5 rooms equipped with anatomical baths for storing wet preparations, special cabinets for bone preparations, plastinated preparations and models, diagrams, plates.

4. two computer classes.

9.2. List of equipment for classroom activities for the discipline

1. Sectional tables, sinks, stretchers, steel baths for storing wet preparations, interactive desk, chairs.

2. Fund of natural anatomical preparations (1000 dry, 2000 wet), plastinated preparations, modern anatomical models, diagrams, plates.

3. 20 computers, 6 laptops, 1 multimedia projector, 10 monitors, “Pirogov’s table”.

4. Sets of multimedia materials for sections of the discipline, videos.

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
HUMAN ANATOMY

CHANGE REGISTRATION SHEET

working program for the academic discipline
HUMAN ANATOMY OF ORGANS AND SYSTEMS (elective course)

Field of study / specialty / scientific specialty: **33.05.01 PHARMACY**
(code, name)

Training profile: _____**PHARMACIST** _____
(*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 Human Anatomy Department
M.D., PhD., professor _____ Stelnikova I.G.
signature