APPROVED
by the decision of the Academic Council of the Institute of Medicine, Ecology and Physical Culture of USU
of « 19 » June 2019 , protocol № 10/210
Chairman _____ V. I. Midlenko
(signature, signature clarification)
« 19 » June 2019

WORKING PROGRAM

Discipline	Anatomy Б1.Б.11
Faculty	Faculty of medicine T. Z. Biktimirova
Department	Human Anatomy
Course	1,2

Field (speciality) 31.05.01 General medicine
course code (speciality), full name

Orientation (profile / specialization) _____
full name

Form of study intramural
intramural , extramural, intra-extramural (specify only those that are implemented)

Date of introduction in the teaching process at USU: « 02 » september 2019

The program was updated at the department session: protocol № 21/393 of 16.03.2020
The program was updated at the department session: protocol № 21/396 of 22.06.2020
The program was updated at the department session: protocol № _____ of _____ 20___ .
The program was updated at the department session: protocol № _____ of _____ 20___ .

Information on authors:

Initials	Department	Degree, title
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AGREED	AGREED
Head of the department of Human Anatomy	Head of the department of Hospital Therapy
_____ / Khayrullin R.M. / *Signature* *Initials* « 17 » June 2019	_____ / Vize-Khripunova M. A. / *Signature* *Initials* « 17 » June 2019

1. OBJECTIVES AND AIM OF MASTERING THE DISCIPLINE

Objectives of mastering the discipline - is the acquisition by students of knowledge about the form and structure of the human body, its constituent organs and systems.

The process of mastering the discipline "Anatomy" is aimed at the formation of general cultural, general professional competencies and professional competencies (GC-1, GPC-9, PC-12).

Aim of mastering the discipline:

- to form students' knowledge about the shape of the human body, organs and systems;
- the study of anatomy as a fundamental biomedical discipline on the development and structure of organs and systems, the study of the development, structure of sex, age and individual variability of organs and systems as a whole and their individual parts.

2. PLACE OF DISCIPLINE IN THE STRUCTURE OF THE BASIC PROFESSIONAL EDUCATIONAL PROGRAM: the discipline Б1.Б.11

Discipline "Anatomy" refers to the basic part of the BPEP HE specialty 31.05.01 – «General medicine». Discipline "Anatomy" for English-speaking students is taught and studied in English.

Natural science, mathematical and biomedical disciplines. Students must master the basics of terminology, correctly apply medical terms in both Latin and Russian, as well as master the knowledge and skills in the anatomy and topography of organs and tissues of the human nervous system.

Mastering the discipline is based on the knowledge, skills and abilities formed by previous disciplines: “Foreign language”, “Physics”, “Mathematics”.

Studying the discipline "Anatomy" allows students to obtain the necessary knowledge, skills in the development of subsequent disciplines: "Philosophy", "Topographic anatomy and operative surgery", "Radiation diagnostics", "Neuroanatomy", "Histology, embryology, cytology", "Biochemistry", "Normal physiology", "Propaedeutics of internal diseases", "Pathological anatomy", "Pathophysiology, clinical pathophysiology", "Obstetrics and gynecology", "Forensic medicine", "Embryonic development of body tissues", "Physiology of visceral systems", "Surgical gastroenterology and endoscopy", "Dialogue of the doctor with the patient (diseases of the nervous system), preparation for passing and passing the state exam, biopsychosocial approach to medical rehabilitation, practical application of the International Classification of Functioning in Rehabilitation for Various Pathologies, taking notes of special medical tests (diseases of the organs of urine excretion), clinical practice (assistant hospital doctor).

3. LIST OF PLANNED LEARNING OUTCOMES ON DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF MASTERING THE BASIC PROFESSIONAL EDUCATIONAL PROGRAM

The study of the subject "Anatomy" within the completion of the educational program is directed towards the formation of the following general and professional competences in students:

Code and name of the implmented competence	List of planned learning outcomes for discipline (module), correlated with indicators of achievement of the competencies
GC-1	**The student must know:** • macro- and microscopic structure of the human body connected with the biological regularities in living organisms, as well as the constitutional, sex, age and individual characteristics; • anatomical and topographical relations agencies, options volatility of individual organs and vices of their development, for the subsequent application of knowledge in the study of other basic and clinical disciplines and future practice.
	The student must be able to: • find the location of organs, nerve trunks in human body; • identify anatomical structures available on the organs; • work with cadaver material and phantom-waxwork material.
	The student must possess: • preparation and work with cadaveric material with phantom-dummy material; • scientific, educational and reference books to find the necessary information.
GPC-9	**The student must know:** • the peculiarities of human ontogenesis, patterns of development of organs and systems, abnormal development of organs; • causes and mechanisms of formation of congenital malformations of organs in adult, children and adolescents.
	The student must be able to: • explain the formation of anomalies of organs during the formation of embryogenesis and the fetus during the prenatal period of human development.
	The student must possess: • medical-anatomical conceptual apparatus.
PC-12	**The student must know:** • the basic details of the structure and topography of organs, pelvis, their main functions in different age periods; • the diameters and conjugates of the pelvis; • the main sources and patterns of development of organs and systems in pre-and postnatal ontogenesis; • possible variants of the structure, the main anomalies and malformations of pelvic organs.
	The student must be able to: • to navigate to the topography and the details of the structure of the pelvic organs on anatomical preparations; • to show and correctly name the pelvic organs and their parts in Russian and Latin.
	The student must possess: • medical-anatomical conceptual apparatus.

4. TOTAL WORKLOAD OF THE DISCIPLINE

4.1. Volume of discipline in credit units (total)___396 hours (11 Credit)____

4.2. Volume discipline by type of study (in hours)

Type of academic workload	Number of hours (form of study_____intramural____)			
	Total in the plan	Throughout the terms		
		term № 1	term № 2	term № 3
1	2	3	4	5
Student-Teacher activity	**234**	**108**	**72**	**54**
Classes:	234	108	72	54
Lectures	54	36	18	-
Practical classes	180	72	54	54
Laboratory work	-	-	-	-
Self-study work	**126**	**72**	**36**	**18**
Types of midterm assessment (exam, test)	Test, Exam (1 Credit)-**36**	-	Test	Exam (1 Credit) **36**
Total hours on the discipline	**396 (11 Credit)**	**180 (5 Credit)**	**108 (3 Credit)**	**108 (3 Credit)**

∗ В случае необходимости использования в учебном процессе частично/исключительно дистанционных образовательных технологий в таблице через слеш указывается количество часов работы ППС с обучающимися для проведения занятий в дистанционном формате с применением электронного обучения.

4.3. The contents of discipline (module). Distribution of hours on the themes and types of academic work: number of hours- 396

Form of study_____intramural____

Name of sections and themes	Total	Types of classes					Form of current control
		Classes:			Interactive classes	Self-study work	
		Lectures	Practical classes and seminars	Laboratory work, workshops			
1	2	3	4	5	6	7	8
Section 1. INTRODUCTION. HISTORY OF HUMAN ANATOMY							
Introduction to human anatomy.	8	2	0			6	Test and questions
History of human anatomy.	2	2	0			0	Test and questions
Ontogenesis of human.	4	2	0			2	Test and questions
Introduction to human embryology.	4	0	0			4	Test and questions
Section 2. OSTEOLOGY							
General osteology of	2	2	0			0	Test and

the skeleton.							questions
Bones of trunk.	6	0	4		2 Inter- active	2	Test and questions
Bones of skull. Cranial Skeleton.	6	0	4			2	Test and questions
Bones of skull. Facial Skeleton.	6	0	4			2	Test and questions
General anatomy of the skull.	4	0	4		2 Inter- active	0	Test and questions
General anatomy of the skull.	4	0	4			0	Test and questions
Development of the skull bones.	8	0	0			8	Test and questions
Bones of the upper limb.	4	0	4			0	Test and questions
Bones of the lower limb.	4	0	4			0	Test and questions
Section 3. ARTHROLOGY							
General arthrosyn-desmology.	7	2	0			5	Test and questions
Bones and joints in postnatal ontogenesis.	4	0	0			4	Test and questions
Introduction to the X-ray anatomy.	3	0	0			3	Test and questions
Join of the skull bones and the trunk bones.	9	0	4			5	Test and questions
Join of the bones of the upper limb.	9	0	4			5	Test and questions
Join of the bones of the lower limb.	9	0	4			5	Test and questions
Section 4. MYOLOGY							
General anatomy of muscles.	2	2	0			0	Test and questions
Functional anatomy of the facial muscles	3	1	0			2	Test and questions
Functional anatomy of the masticatory apparatus.	3	1	0			2	Test and questions
Functional anatomy of the trunk muscles.	6	2	0			4	Test and questions
Anatomy and biome-chanics of the joints and muscles of the upper limb.	3	2	0			1	Test and questions
Anatomy and biome-chanics of the joints and muscles of the lower limb.	2	2	0			0	Test and questions
General questions about medicine anthropology.	5	0	0			5	Test and questions

Muscles and fasciae of the trunk.	4	0	4		2 Inter- active	0	Test and questions
Muscles and fasciae of the abdomen.	4	0	4			0	Test and questions
Muscles and fasciae of the head and neck.	4	0	4			0	Test and questions
Topography of the neck.	4	0	4			0	Test and questions
Muscles of the upper limb.	4	0	4			0	Test and questions
Topography of the upper limb.	4	0	4			0	Test and questions
Muscles of the lower limb.	4	0	4			0	Test and questions
Topography of the lower limb.	4	0	4			0	Test and questions
Classification of muscles.	2	0	0			2	Test and questions
Bone-fascias and intermuscular space of calvarium.	3	0	0			3	Test and questions
Section 5. VISCEROLOGY							
Introduction to viscerology. General anatomy of digestive system.	2	2	0			0	Test and questions
Functional anatomy and topography of the digestive glands.	2	2	0			0	Test and questions
Functional anatomy and topography of the peritoneum	2	2	0			0	Test and questions
Functional anatomy of larynx and lungs. The mediastinum.	2	2	0			0	Test and questions
Features of structure and development of organs of urinary system.	2	2	0			0	Test and questions
Features of structure and development of male genital organs.	2	2	0			0	Test and questions
Features of structure and development of female genital organs.	2	2	0			0	Test and questions
Section 6. ANGIOLOGY							
General angiology. The functional anatomy of the heart.	2	2	0			0	Test and questions
I term	**180**	**36**	**72**	**0**	6 hours I/classes	**72**	

2 Half-year. Section 5. VISCEROLOGY							
Embryogenesis of the cardiovascular system.	2	0	0			2	Test and questions
General anatomy of the structure of the arteries. Microcirculation. Collateral circulation	2	2	0			0	Test and questions
Vessels of a large circle of blood circulation.	2	2	0			0	Test and questions
Venous system. Fetal circulation.	2	2	0			0	Test and questions
General anatomy of the lymphatic system.	1	1	0			0	Test and questions
Particular anatomy of the lymphatic system.	4	1	0			3	Test and questions
Functional anatomy of the organs of the immune system.	2	2	0			0	Test and questions
Functional anatomy of the organs of the endocrine system.	2	2	0			0	Test and questions
The oral cavity, its organs. The pharynx. The esophagus.	3	0	3			0	Test and questions
The stomach. The intestines.	3	0	3			0	Test and questions
The liver. The pancreas.	3	0	3			0	Test and questions
The peritoneum. Topography of the organs of the digestive system.	3	0	3			0	Test and questions
The lower floor of the peritoneal cavity	3	0	3			0	Test and questions
Nasal cavity. Larynx. Trachea. Main bronchi.	3	0	3			0	Test and questions
Bronchial tree. The anatomy of the lungs. The structure of pleura. Topography of mediastinal organs.	3	0	3			0	Test and questions
Kidneys. Urinary bladder. Urethra.	3	0	3			0	Test and questions
The male reproductive organs.	3	0	3		2 Interactive	0	Test and questions
The female reproductive organs.	3	0	3		2 Interactive	0	Test and questions
Muscles and fasciae	3	0	3			0	Test and

of the perineum.							questions
The organs of the oral cavity. Feature of structure of newborn.	3	0	0			3	Test and questions
Normal feature and pathology in X-ray anatomy of teeth and jaw in the different view	3	0	0			3	Test and questions
Development, abnormalities of development and X-ray anatomy of the organs of digestive system.	2	0	0			2	Test and questions
Upper airways. Features of structure and development of adult and newborn.	3	0	0			3	Test and questions
Development, abnormalities of development and X-ray anatomy of the organs of urinary system.	4	0	0			4	Test and questions
Features of structure and development of genitals.	3	0	0			3	Test and questions
Section 6. ANGIOLOGY							
The heart and pericardium. The greater and lesser circulatory system. Blood supply of the heart. Pulmonary trunk.	3	0	3		2 Inter-active	0	Test and questions
The aorta, its parts. Arch of aorta, its branches. Thoracic part of aorta. Abdominal part of aorta, its branches.	3	0	3			0	Test and questions
Internal and external carotid artery, its branches. Subclavian artery, its branches.	3	0	3			0	Test and questions
Axillary artery, its branches. The arteries of the upper limb.	3	0	3			0	Test and questions
Common, internal and external iliac arteries.	3	0	3			0	Test and questions
The arteries of the lower limb.	3	0	3			0	Test and questions
Arterial arches of	3	0	3			0	Test and

foot.							questions
Development of the cardiovascular system. Features of structure of newborn.	3	0	0			3	Test and questions
Blood supply of organs of head and neck.	3	0	0			3	Test and questions
General anatomy of arteries structure. Collateral circulation.	3	0	0			3	Test and questions
Section 7. CENTRAL NERVOUS SYSTEM							
Functional anatomy of the spinal cord.	2	2	0			0	Test and questions
Section 8. PERIPHERAL NERVOUS SYSTEM							
General anatomy of the peripheral nervous system.	2	2	0			0	Test and questions
Functional anatomy of the autonomic nervous system.	4	2	0			2	Test and questions
Autonomic ganglions, their relations with trigeminal nerve.	2	0	0			2	Test and questions
II term	**108**	**18**	**54**	**0**	6 hours I/classes	**36**	
3 Half-year. Section 6. ANGIOLOGY							
The system of superior vena cava.	3	0	3			0	Test and questions
The system of inferior vena cava.	3	0	3			0	Test and questions
The system of portal vein.	3	0	3			0	Test and questions
The head, the neck, the chest and the upper limb, their lymphatic vessels and nodes. The lymphatic nodes of mammary gland.	7	0	3		2 Interactive	4	Test and questions
The lymphatic vessels and nodes of the organs of pelvis and abdomen and lower limb.	7	0	3			4	Test and questions
Features of blood supply, lymph outflow of the walls of the abdomen.	3	0	3			0	Test and questions
Section 7. CENTRAL NERVOUS SYSTEM							
The spinal cord, its shell. The forming of spinal nerves. Segment of spinal cord.	3	0	3		2 Interactive	0	Test and questions

Section 8. PERIPHERAL NERVOUS SYSTEM							
Cervical plexus, its branches.	3	0	3			0	Test and questions
Brachial plexus. Short branches of brachial plexus.	3	0	3			0	Test and questions
Brachial plexus. Long branches of brachial plexus.	3	0	3			0	Test and questions
Lumbar plexus, its branches.	3	0	3			0	Test and questions
Sacral plexus. Short and long branches.	3	0	3			0	Test and questions
Intercostal nerves.	2	0	0			2	Test and questions
Coccygeal plexus, its branches.	3	0	3			0	Test and questions
Nerves and blood vessels of neck and head, their topography relations. Innervation of neck and head.	3	0	3		2 Inter-active	0	Test and questions
Nerves and blood vessels of upper limb, their topography relations. Innervation of muscles and skin of upper limb.	6	0	3			3	Test and questions
Nerves and blood vessels of the walls of thorax and abdomen, their topography relations.	3	0	3			0	Test and questions
Innervation, blood supply and outflow of lymph of the organs and walls of pelvis.	6	0	3			3	Test and questions
Nerves and blood vessels of lower limb, their topography relations.	5	0	3			2	Test and questions
III term	**72 + 36** Exam **= 108**	**0**	**54**	**0**	6 hours I/classes	**18**	
TOTAL:	**360 + 36** Exam **396 ч.**	**54**	**180**	**0**	18 hours I/classes	**126**	

5. CONTENT OF THE DISCIPLINE (MODULE)

LECTURES

Section 1. Introduction.
Topic 1. Introduction to human anatomy.
Human anatomy as a fundamental medicine science, its methods and significance.
Organism as a holistic system. The organs, their system and apparatus; Anatomical nomenclature.
Topic 2. The history of anatomy.
The development of anatomical knowledge.
The works of Aristotle, Herophilius, Galen and Avicenna in the development of anatomy. Anatomy in the Renaissance. Development of native anatomy.
Topic 3. Ontogenesis of human.

Section 2. Osteology.

Topic 4. General anatomy of the skeleton.
Overview of the human skeleton, its function. The bone as an organ, it composition, structure, properties. Classification of bones. Types of ossification.

Section 3. Arthrology.

Topic 5. General arthrosyndesmology.
Introduction to arthrosyndesmology. The joint, its classification and qualification. The biomechanics of joints.

Section 4. Myology.

Topic 6. General anatomy of muscles.
The muscles, their structure and classification. The muscles as an organ. Auxiliary muscle apparatus. The biomechanics of muscles .
Topic 7. The functional anatomy of the facial muscles.
The facial muscles, their classification and general qualification . Analysis of human facial expressions.**The functional anatomy of the masseter muscles.**
The masseter muscles, their classification and general qualification . The morphology of the masticatory apparatus.
Topic 8. Functional anatomy of the trunk muscles.
Muscles of the trunk. their classification, structure and functions. The Diaphragm, it development, topography and structure. The diaphragm and the chest muscles, it parts in breathing.
Muscles of the back : superficial and deep layers. Abdominal press, it components. The rectus sheath. The White Line. The Umbilical ring. The Inguinal canal.
Topic 9. Anatomy and biomechanics of the joint and muscles of the upper limb.
Muscles and fasciae of the upper limb, their topography, canals, furrows and fosses. Topography of axillary cavity. Movements of the upper limb.
Topic 10. Anatomy and biomechanics of the joint and muscles of the lower limb.
Muscles and fasciae of the lower limb, their topography, canals, furrows and fosses. The muscular and vascular lacunae, their contents. Movements of the lower limb.

Section 5. Viscerology.

Topic 11. Introduction to viscerology. General anatomy and development of the digestive system.
Introduction to viscerology. The digestive system, it general structure, functional anatomy and topography. Abnormalities of development.
Topic 12. Functional anatomy and topography of the digestive glands.
The functional anatomy, development and blood supply of the liver. Functional anatomy of the gallbladder and the common bile duct. The pancreas, it development, topography and functional anatomy.
Topic 13. Functional anatomy and topography of peritoneum.
The functions and development of peritoneum.
Topic 14. Functional anatomy of the respiratory system. The mediastinum.
The nose cavity, trachea and bronchus, their functional anatomy. The larynx, it topography and parts. Functional anatomy of the lungs. Bronchial and alveolar tree. The anatomical and clinical classification of the mediastinum. Pleura and pleural cavity, their structure and sinuses.
Topic 15. Features of structure and development of organs of urinary system.
Functional anatomy of the kidney. The Nephron. The renal circulation. Topography and radiographic anatomy of the kidney. Functional anatomy of the urinary tracts.
Topic 16. Features of structure and development of male genitals organs.
Functional anatomy of the male reproductive organs. Process of the lowering the testicle.
Topic 17. Features of structure and development of female genitals organs .
Functional anatomy of the female reproductive organs. The perineum and ischiorectal fossa, their clinical meaning.

Section 6. Angiology

Topic 18. General Angiology. The functional anatomy of the heart.
Cardiovascular system, it general anatomy, development and functions. Functional anatomy and topography of the Heart.
Topic 19.Arterial system. Microcirculation. Collateral circulation.
Patterns of location and branches of the main extra-organic and intra-organic arteries. Structure of the Microcirculation in organs and tissues. Definition of collateral circulation.
Topic 20. Vessels of a large circle of blood circulation.
Topography and branches of the aorta. Topography, branches of the arteries of the head and neck.
Topic 21. Venous system. Portacaval shunt. Fetal circulation.
Veins, their classification and general anatomy. The veins of the greater and lesser circulatory system. Overview of the venous system. Fetal circulation.
Topic 22. General anatomy of the lymphatic system.
Functional anatomy of the lymphatic system. Features of structure of the network of lymphatic capillaries in the organs. Functional anatomy of the lymphatic vessels and collectors.
Topic 23. Functional anatomy of organs of the immune system.
Functional anatomy and topography of the immune system.
Topic 24. Functional anatomy of the organs of the endocrine system.
Endocrine glands, their functional anatomy, topography and age-related changes.

Section 7. Neurology (Central nervous system)

Topic 25. Functional anatomy of the spinal cord.

Functional qualification of the nervous system. Functional anatomy of the spinal cord Shell and intermembranous space of the brain.

Section 8. Peripheral nervous system.

Topic 26.General anatomy of peripheral nervous system. General anatomy of spinal nerves, their formation. Segmental of distribution of peripheral nerves. The formation of plexus.
Topic 27. Functional anatomy of the autonomic nervous system.
Classification, structure and functions of the sympathetic and parasympathetic systems.

6. TOPICS OF PRACTICAL CLASSES (FOR DISCUSSING AND SELF-PREPARING OF STUDENTS)

Section 1. Introduction. The history of anatomy.

"This section does not include lectures."

Section 2. Osteology

Topic 1. The bones of the trunk
Questions on the topic:
1.The organization of education processes at the department of anatomy.
2.Anatomical terminology.
3.The axis and atlas.
4. Cervical vertebrae, thoracic vertebrae, lumbar vertebrae, sacral vertebrae, coccygeal vertebrae.
5. The ribs and breast bone.
Topic 2. The bones of cranial skull.
Questions on the topic:
1.The bones of cranial skull: frontal bone, cuneiform bone.
2.The bones of cranial skull: occipital bone, parietal bone.
3.The bones of cranial skull: ethmoid bone, temporal bone.
Topic 3. The bones of facial skull
Questions on the topic:
1.The bones of facial skull: upper and lower jaw.
2.The bones of facial skull: vomer, inferior nasal concha, palatine bone.
3. The bones of facial skull:nasal bone, lacrimal bone, zygomatic bone, hyoid bone.
Topic 4. General anatomy of the skull
Questions on the topic:
1.Topograthy of cranial skeleton: calvarium.
2.Topograthy of cranial skeleton: external and internal base of skull.
Topic 5. General anatomy of the skull
Questions on the topic:
1.Topography of facial skeleton : orbit, nasal cavity.
2.Topography of facial skeleton : bony palate, pterygopalatine fossa.
Topic 6. The bones of the upper limb
Questions on the topic:
1.Structure of skeleton limbs: the bones of shoulder girdle (shoulder blade, collar bone, humerus).
2.Structure of skeleton limbs: the bones of shoulder girdle (the bones of forearm, the bones of hand).
Topic 7. The bones of the lower limb
Questions on the topic:

1.The bones of girdle of lower limb (coxes bone, femoral bone).
2.The bones of girdle of lower limb (the bones of shin, the bones of foot).

Section 3. Arthrology

Topic 8. Join of the skull bones and the trunk bones
Questions on the topic:
1.Continuous and discontinuous join of bones of the skull. Join of vertebrae, sacrum and coccyx.
2.Join of vertebral column with skull.
3.Join of ribs with vertebral column.
4.Backbone. General anatomy of the thorax.
Topic 9. Join of the bones of the upper limb
Questions on the topic:
1.Joint of girdle of upper limb.
2.Joint of upper limb (shoulder joint, elbow joint, wrist join of bones of forearm join of bones of hand).
Topic 10. Join of the bones of the lower limb
Questions on the topic:
1.Joint of girdle of lower limb.
2.Joint of lower limb (thigh joint, knee joint, join of bones of shin, join of bones of foot).

Section 4. Miology

Topic 11. Muscles and fasciae of the trunk
Questions on the topic:
1.Superficial and deep muscles and fasciae of back.
2.Suboccipital muscles.
3.Muscles and fasciae of thorax.
4.The diaphragm.
Topic 12. Muscles and fasciae of the abdomen
Questions on the topic:
1.Muscles of anterior, posterior and lateral walls of abdominal cavity.
2.Fasciae of abdomen.
3.White line.
4.Inguinal canal.
Topic 13. Muscles and fasciae of the head and the neck
Questions on the topic:
1.Superficial and deep muscle and fasciae of neck.
2.Masseteric and mimetic muscles and fasciae of head
Topic 14. Topography of the neck
Questions on the topic:
1.Triangles of anterior part of neck.
2.Triangles of lateral part of neck.
3.Cellular spaces of the neck.
Topic 15. Muscles of the upper limb
Questions on the topic:
1.Muscles of girdle of upper limb.
2.Muscles of shoulder (anterior and posterior group of muscles)
3.Muscles of forearm (anterior and posterior group of muscles).
Topic 16. Topography of the upper limb
Questions on the topic:

1.Muscles of hand.
2.Fasciae and vagina tendens of muscles of upper limb.
3.Axillary fossa and cavity.
4. Furrows and canals of shoulder, forearm and wrist.

Topic 17. Muscles of the lower limb

Questions on the topic:

1.Muscles of girdle of lower limb.
2.Muscles of thigh (anterior, posterior and medial group of muscles).
3.Muscles of shin (anterior, posterior and lateral group of muscles).

Topic 18. Topography of the lower limb

Questions on the topic:

1.Fasciae of synovial bursa, tendons sheaths of muscles of lower limb.
2.Topography of lower limb. Holes and canals of pelvis. Muscular and vascular lacuna. Femoral trigone. Furrows and canals of thigh. Popliteal space.
3.Furrows and canals of shin and foot. Muscles of foot.

Section 5. Viscerology

Topic 19. The oral cavity, its organs. The pharynx. The esophagus

Questions on the topic:

1.The walls of oral cavity.
2.The structure of teeth.
3.The structure and function of tongue.
4.Greater and lesser salivary glands. Soft palate. Palatine tonsils.
5.Pharynx, its structure, topography and parts. Act of swallowing.
6.Esophagus, it topography, parts and structure of the walls.

Topic 20. The stomach. The intestines

Questions on the topic:

1.The stomach, it topography, forms, structure of the walls and ligaments.
2. Small intestine, its parts and relate to peritoneum.
3. Duodenum, its parts and form. Topography of jejunum and ileum.
4. Large intestine, its topography and differences of small intestine. Cecum. Vermiform appendage.
5. Colon, it parts.

Topic 21. The liver. The pancreas

Questions on the topic:

1.The liver, its topography, parts and structure. Features of blood supply of the liver. Relate to peritoneum.
2.Bile duct and gallbladder, its structure.
3.Pancreas, its parts and structure.

Topic 22. The peritoneum. Topography of the organs of the digestive system

Questions on the topic:

1.Peritoneum, its structure and functions. Parietal and visceral peritoneum. Relate from organs to peritoneum.
2.Ligaments and burses of upper level of peritoneum cavity.
3.Greater and lesser omentum.
4. Furrows, canals and sinuses of the mean level of peritoneum cavity.

Topic 23. The lower floor of abdominal cavity (Peritoneum)

Questions on the topic:

1.Topography of peritoneum in the pelvis cavity of male and female.

Topic 24. The external nose. The cavity of the nose. The larynx. The trachea. The primary

bronchi

Questions on the topic:

1.The structure of cavity of the nose. Paranasal sinuses.

2.The larynx, its topography. The structure of larynx: gristles, ligaments, joints, muscles, their functions. Division to parts of cavity of larynx. Folds of larynx.

3.Trachea and primary bronchi, its topography and structure.

Topic 25. The bronchial tree. The lungs and mediastinum.

Questions on the topic:

1.The lungs, its structure and functions. Lobes and segments of lung. Structural and functional unit of lung – acinus.

2.Structure and topography of pleura. Pleural sinuses, their formation and functional signification.

3.Mediastinum, its topography and divide to parts.

Topic 26. The kidneys, the ureter, the urinary bladder and the urethra

Questions on the topic:

1.Topography and structure of kidney. Macroscopic anatomy of kidney.

2. Nephron is structural functional unit of kidney. Shells of kidney, their fixing apparatus.

3.Urinary tracts. Renal calices. Renal pelvis.

4.Ureter, its parts, topography and structure of walls.

5.Urinary bladder, its form, structure and position.

Topic 27. The male reproductive organs

Questions on the topic:

1.Structure and shells of testis.

2.Spermatic cord.

3.Structure and topography of epididymis, deferent duct, prostate gland and seminal vesicles.

4.External male genital organs.

Topic 28. The female reproductive organs

Questions on the topic:

1.Topography, structure and cyclical changes of ovary.

2.Anatomy and topography of uterus, its ligaments and relate to peritoneum.

3. Uterine tube, its parts, topography and structure of the walls.

4.External female genital organs.

Topic 29. Muscles and fasciae of the perineum.

Questions on the topic:

1.Muscles and fasciae of male perineum.

2.Muscles and fasciae of female perineum.

Section 6. Angiology

Topic 30. The heart and the pericardium

Questions on the topic:

1.Anatomy, topography, form and position of the heart. Projection of borders of the heart.

2.Atriums and ventricles, their structure of the walls.

3.Structure and topography of valve. Conducting system of heart.

4.Pericardium, it cavity and sinuses.

5.The greater and lesser circulatory system. Blood supply to the heart. Pulmonary trunk. Arteries and veins of the heart. Arteries of greater and lesser circulatory system. Pulmonary trunk. Pulmonary arteries.

Topic 31. The aorta, its parts. Arch of aorta, its branches. Thoracic part of aorta. Abdominal part of aorta, its branches

Questions on the topic:

1.The aorta, its parts. Aortic bulb. Ascending part of aorta. Arch of aorta, its branches.
2.Thoracic part of aorta, its parietal and visceral branches.
3.Abdominal part of aorta, its topography, parietal and visceral branches.

Topic 32. Internal and external carotid arteries, its branches. Subclavian artery, its branches

Questions on the topic:

1.Topography of right and left common carotid artery. Projection.
2.External carotid artery, its branches and areas of blood supply.
3.Topography of internal carotid artery. Arterial vessel of brain and spinal cord.
4.Arterial ring of brain. Its topography and branches.

Topic 33. Axillary artery, its branches. The artery of the upper limb

Questions on the topic:

1.Axillary artery, its topography, parts and branches.
2.Brachial artery, ulnar artery, radial artery, their topography and branches.
3.Palmar (superficial and deep) arterial arch of hand, their formation and branches. Network of elbow.

Topic 34. Common, internal and external iliac artery

Questions on the topic:

1.Common iliac artery, its topography, parts and branches.
2.Internal and external iliac artery, its topography, parts and branches.

Topic 35. The artery of the lower limb

Questions on the topic:

1.Femoral artery, its topography and branches.
2.Anterior and posterior tibial artery, its branches. Network of knee.
3.Artery of shin and foot.

Topic 36. Arterial arches of the foot

Questions on the topic:

1.Plantar arterial arches of foot, their formation and branches.
2.Dorsal arterial arches of foot, their formation and branches.

Topic 37. The system of the upper vena cava. Fetal circulation

Questions on the topic:

1.Upper vena cava, its topography and flows.
2.Veins of brain. Sinuses of dura mater of brain. Join between intracranial and extracranial veins. Internal, external and anterior jugular vein, their topography.
3.Brachioceptalis veins, their topography. Subclavian vein, its flows and topography.
4.Superficial and deep veins of upper limb.
5.Azygos and hemazygos veins.
6.Fetal circulation.

Topic 38. The system of the lower vena cava

Questions on the topic:

1.Lower vena cava, its forming.
2.Superficial and deep veins of lower limb.
3.External iliac vein. Parietal and visceral flows of internal iliac vein. Common iliac vein.

Topic 39. The system of the portal vein, its form, flows and topography

Questions on the topic:

1.Portal vein, its topography.
2.Portal vein, flows and embranchment in the liver.

Topic 40. The head, the neck, the chest and the upper limb, their lymphatic vessels and nodes. The lymphatic nodes of mammary gland

Questions on the topic:

1.Features of the anatomy and topography of the lymphatic vessels and nodes of the head.

2.Features of the anatomy and topography of the lymphatic vessels and nodes of the neck.
3.Features of the anatomy and topography of the lymphatic vessels and nodes of the chest.
4.Features of the anatomy and topography of the lymphatic vessels and nodes of the upper limb.
5.Features of the anatomy and topography of the lymphatic vessels and nodes of mammary gland.

Topic 41. The lymphatic vessels and nodes of the organs of pelvis and abdomen and lower limb
Questions on the topic:
1.Features of the anatomy and topography of the lymphatic vessels and nodes of pelvis.
2.Features of the anatomy and topography of the lymphatic vessels and nodes of abdomen.
3.Features of the anatomy and topography of the lymphatic vessels and nodes of the lower limb.

Topic 42. Features of blood supply, lymph outflow of the walls of the abdomen
Questions on the topic:
1.Features of the anatomy and topography of the lymphatic vessels of the walls of abdomen.
2.Features of the anatomy and topography of the blood vessels of the walls of abdomen.

Section 7. Central nervous system

Topic 43. The spinal cord, its shell. The forming of spinal nerves.
Questions on the topic:
1.The spinal cord, form, topography and structure. Central canal.
2. Gray and white substance.
3.Segment of spinal cord. Roots of spinal nerves.
4.Spinal ganglions. Formation of spinal nerves.
5.Shells of spinal cord.

Section 8 Peripheral nervous system

Topic 44. Cervical plexus, its branches
Questions on the topic:
1.Cervical plexus, its formation, structure, topography and branches.
2.Phrenic nerve.

Topic 45. Brachial plexus (short branches)
Questions on the topic:
1.Brachial plexus, its formation, structure and topography.
2.Short branches of brachial plexus.
3. Areas of innervations.

Topic 46. Brachial plexus. (long branches)
Questions on the topic:
1.Long branches of brachial plexus. Areas of innervations.
2.Skin nerves of shoulder and forearm.
3.Median and ulnar nerve, their formation and branches.
4.Musculocutaneous and radial nerves, their formation and branches.

Topic 47. Lumbar plexus, its branches
Questions on the topic:
1.Lumbar plexus, its formation, topography/
2.Lumbar plexus, its branches and areas of innervations.

Topic 48. Sacral plexus. (short and long branches)
Questions on the topic:
1.Short branches of sacral plexus, their topography and areas of innervations.
2.Posterior cutaneous nerve of thigh.
3.Sciatic nerve. Areas of their branch and topography.

4.Tibial nerve and common peroneal nerve, their branches and projection on intergument. Innervation of muscular group and skin of lower limb.
5.Sacral plexus, its topography, branches and areas of innervation.

Topic 49. Coccygeal plexus

Questions on the topic:

1.Its topography.
2. Branches and areas of innervation.

Topic 50. Nerves and blood vessels of neck and head, their topography relations. Innervation of neck and head.

Questions on the topic:

1. Cervical plexus, its formation, structure, topography and branches.
2. External carotid artery, its branches and areas of blood supply.
3. Topography of internal carotid artery.
4. Internal, external and anterior jugular vein, their topography

Topic 51. Nerves and blood vessels of upper limb, their topography relations. Innervation of muscles and skin of upper limb.

Questions on the topic:

1. Long branches of brachial plexus. Areas of innervations.
2. Skin nerves of shoulder and forearm.
3. Median and ulnar nerve, their formation and branches.
4. Musculocutaneous and radial nerves, their formation and branches.
5. Features of the anatomy and topography of the blood vessels of the upper limb.

Topic 52. Nerves and blood vessels of the walls of thorax and abdomen, their topography relations.

Questions on the topic:

1.Features of the anatomy and topography of the blood vessels of the walls of abdomen and thorax.
2.Intercostal nerves, their topography, branches and areas of innervations.

Topic 53. Innervation, blood supply and outflow of lymph of the organs and walls of pelvis.

Questions on the topic:

1. Innervations, blood supply and outflow of lymph of the organs and walls of pelvis.
2. Muscles of pelvis.
3. External and internal artery, its branches.
4. External and internal veins, its branches and flows.

Topic 54. Nerves and blood vessels of lower limb, their topography relations.

Questions on the topic:

1.Innervations, blood supply and outflow of lymph from different group of muscles and areas of the lower limb.
2. Muscles of lower limb, its nerves and branches.
3. Topography and anatomical relation of nervous and blood vessels of the lower limb.

7. LABORATORY WORK, WORKSHOPS

"This type of work is not provided by the curriculum."

8. THEMES OF COURSE, CONTROL WORKS, ABSTRACTS

"This type of work is not provided by the curriculum."

9. LIST OF QUESTIONS FOR CREDIT

№ task	Question wording
1.	**OSTEOLOGY AND ARTHROLOGY** 1. Classification of bones. Vertebrae: their structure in different parts of the vertebral column (cervical, thoracic, lumbar, sacral, coccygeal vertebrae), variants and anomalies. Structure of ribs, sternum. 2. Structure of bones of the shoulder girdle (scapula, clavicle). Structure of bones of free part upper limb. The humerus, bones of a forearm (ulna, radius). Bones of the hand. 3. Hip (coxal) bone, femur, patella. Bones of the leg and the foot. 4. Anatomic and biomechanical classification of bone connections (articulations) their functional features. Continuous articulations (or connections - synarthrosis) of bones. Structure of a joint. Classification of synovial joints (diarthrosis) according to the number of articular surfaces, number of axes and shape of articular surfaces, and function. 5.Connections of vertebrae. The vertebral column as a whole: formation of its curvatures, movements. The atlanto-occipital joint, the atlanto-axial joints. Connections (articulations) of the skull bones (continuous connections, temporo-mandibular joint). 6. Connections of ribs with vertebrae and sternum. Thorax as a whole. 7. Connections of bones of shoulder girdle. Connections of free part of upper limb. Shoulder joint. The elbow joint, connections of bones of forearm. 8. Joints of the hand. The hand as a whole. 9. Connections of pelvic girdle. Pelvis as a whole. Age and sexual features, sizes of female pelvis. Hip joint.).10. The knee joint, connections of the leg bones and of the foot.
2.	**THE SKULL** 1. The skull. Cranial part. Occipital, parietal and frontal bones. Sphenoid bone, its parts, foramina. Temporal bone, structure, its canals. Ethmoid bone. 2. Bones of the facial (visceral) skull: maxilla, mandible, zygomatic, nasal, palatine, lacrimal, inferior nasal concha, vomer, hyoid. 3. The skull as a whole. Calvaria. The base of the skull. Internal and external surfaces. 4. Temporal, infratemporal and pterygo-palatine fossae, their topography. Facial skull. 5. The orbit, bones of walls, apertures. The nasal cavity. The paranasal sinuses. Palatum osseum.
3.	**MYOLOGY (THE MUSCULAR SYSTEM)** 1. Muscles and fasciae of the head: muscles of facial expression (mimic), masticatory muscles. 2. Muscles of the neck. Topography of the neck (Triangles of the neck). Fasciae of the neck. Fasciae spaces of the neck. 3. Muscles and fasciae of the back. 4. Muscles and fasciae of the thorax (chest). Diaphragm. 5. Muscles of the abdomen. 6. The sheath of the rectus abdominis muscle. The linea alba. The inguinal canal, its walls, deep and superficial rings; contents of the inguinal canal. Weak places of the anterior abdominal wall. 7. Muscles and fasciae of the shoulder girdle. Muscles and fasciae of the arm. 8. Muscles of the forearm: anterior group. 9. Muscles of the forearm: posterior group. 10. Muscles of the hand. 11. Fasciae and topography of the upper limb (The axillary fossa. The canal of the radial nerve. The bony-fibrous (osteo-fibrosus) canals and synovial sheaths of the hand). 12. Muscles of the pelvic girdle.

	13. Muscles of the thigh. 14. The muscles of the leg. 15. Muscles of the foot. 16. Fasciae and topography of the lower limb. The structures under the inguinal ligament (muscular and vascular lacunae). The adductor canal, its walls. The femoral triangle.
4.	**SPLANCHNOLOGY** **THE DIGESTIVE SYSTEM** 1. The mouth: lips, oral cavity (oral vestibule, hard and soft palate). The teeth (deciduous and permanent), their structure, the dental row, the dental formula and the eruption time of deciduous and permanent teeth. 2. The tongue: development, structure, functions. Salivary glands (the parotid, sublingual and submandibular salivary glands, small salivary glands). 3. The pharynx: structure, parts, topography. The lymphoepithelial (Pyrogov`s) ring of pharynx (ring of tonsils). 4. The esophagus: topography (skelepotopy, syntopy and holotopy), structure, constrictions. 5. The stomach: structure, topography, position (relation) according to peritoneum, ligaments. 6. The small intestine: its parts, topography, position according to peritoneum, structure of its wall (the duodenum, mesenteric part of the small intestine (jejunum and ileum)). 7. The abdominal cavity, its walls. Regions of anterior abdominal wall. The peritoneum, peritoneal cavity, variants of organ position (relation) according to peritoneum. 8. The large intestine: its parts, their topography, position according to peritoneum; the structure of a wall. The caecum: structure, position according to peritoneum, topography of the vermiform appendix. The rectum: topography, position according to peritoneum, the structure of its wall. 9. The liver: structure, topography, ligaments, functions, features of blood supply. 10. The gallbladder. Paths for bile excretion (the ducts of the gallbladder and the liver). 11. The pancreas: topography, structure, ducts, endocrine part, functions. 12. The peritoneal cavity. Topography of the peritoneum in the upper storey of the peritoneal cavity. The lesser omentum and omental, hepatic and pregastric bursae and their walls. Topography of the peritoneum in the middle and lower storeys of the peritoneal cavity. The greater omentum. The recesses, grooves, sinuses of walls of the peritoneal cavity, pouches of the pelvis.
5.	**UROGENITAL APPARATUS (THE URYNARY SYSTEM. THE REPRODUCTIVE SYSTEM)** 1. The kidneys: development, topography, structure, their coats, position according to peritoneum, supporting apparatus, functions. Functional unit of the kidney – nephron. Blood supply of the kidneys: intrarenal division of vessels. Excretory apparatus. 2. The ureter, the urinary bladder, their structure, topography, position according to peritoneum. The female urethra. 3. Development of the Reproductive system. Male genital organs. The testis, structure, endocrine part of the testis. The epididymis. 4. The prostate, the seminal vesicles. The bulbo-urethral glands (Cowper`s), their relation to the urethra. 5. The spermatic cord, its components. The ductus (vas) deferens. Semen-conveying ducts (Reproductive system ducts in Males). 6. Male external genital organs (penis, scrotum). The male urethra. 7. Female genital organs. The ovary, topography, structure, position according to the peritoneum, endocrine part of the ovary. The uterine tube: structure, position according to peritoneum. 8. The uterus: parts, topography, ligaments, position according to peritoneum. The vagina: structure, topography, position according to peritoneum. 9. Female external genitalia (pudendum femininum). The perineum: parts. Muscles and fasciae of the perineum (male and female). Peritoneum of the pelvic cavity in the male and female pelvis. Its relation to the rectum, the urinary bladder, the uterus and other organs.

6.	**THE RESPIRATORY SYSTEM** 1. Two parts: upper respiratory system and lower respiratory system; two portions: conducting and respiratory. The external nose. The nasal cavity (olfactory and respiratory areas). The paranasal sinuses. 2. The larynx: cartilages, joints, the elastic cone of the larynx, the relief of the internal surface (mucous membrane) of the larynx. Muscles of the larynx, their classification, functions. The trachea and primary bronchi, structure, topography. 3. The lungs: development, topography (skelepotopy, syntopy and holotopy). The segmental structure of the lungs. The roots of right and left lungs: anatomy and topography. Division of bronchi (bronchial tree, alveolar tree), structural and functional unit of the lungs – acinus. Blood supply of the lungs. 4. The pleura: parts, borders; the pleural cavity, pleural recesses. The mediastinum: parts, organs of the mediastinum, their topography.
7.	**CARDIOVASCULAR SYSTEM** 1. General anatomy of blood vessels. The heart: development, structure of the heart. Chambers of the heart: structure. Layers of the heart walls. The features of the myocardium of atria and ventricles. Conducting system of the heart. Topography, projection of borders and valves of the heart on the anterior thoracic wall. Blood supply of the heart, coronary circulation. The pericardium, its topography. The vessels of the pulmonary circulation (general characteristic), their distribution in lungs. The Systemic circulation. 2. General anatomy of blood vessels. Distribution of General anatomy of blood vessels. 3. The aorta and its parts. Branches of arch of the aorta. The external carotid artery, its topography, branches and areas, supplied by them. arteries. 4. The internal carotid artery, topography, branches. The subclavian artery: topography, branches and areas supplied by them. Blood supply of the brain and the spinal cord (cervical part). 5. The axillary and brachial arteries: topography, branches and areas, supplied by them. The arteries of the forearm: topography, branches, areas, supplied by them. Collateral blood circulation at the region of the elbow joint. The arteries of the hand. Arterial palmar arches and their branches. Collateral blood circulation (main collateral artery) at the upper limb, practical significance. 6. Thoracic part of the aorta, branches (parietal and visceral). The visceral (paired and unpaired) branches of the abdominal aorta. The parietal (paired and unpaired) branches of the abdominal part of the aorta. Features of their distribution and anastomoses. 7. The common iliac artery, external and internal iliac arteries, their branches. 8. The femoral and the popliteal arteries: topography, branches and areas, supplied by them. Blood supply of the hip and the knee joints. 9. The arteries of the leg: topography, branches and areas, supplied by them. The arteries of the foot: topography, branches and areas, supplied by them.

9. 1 LIST OF QUESTIONS FOR EXAM

№ task	Question wording
1.	**INTRODUCTION. HISTORY** 1.Human anatomy as a fundamental medical science. Methods of anatomy. 2.The history of the development of anatomy from ancient times to the Renaissance. Anatomical works of Hippocrates, Aristotle, Galen, Abu Ali Ibn Sino, Leonardo da Vinci, Andreas Vesalius. 3. The development of anatomy in the 17th-19th centuries Proceedings of J. Cuvier, M.F.K. Bisha, K.M. Bera, S.G. Zybelin, E.O. Mukhin, P.A. Zagorsky, N.I. Pirogov, P.F. Lesgaft, D.N. Grain. 4. The development of anatomy in the twentieth century. Proceedings of V.N. Tonkov, V.P. Vorobyev, V.N. Shevkunenko, D.A. Zhdanov, V.V. Kupriyanov, Yu.I. Borodin, M.R. Sapin.

2.	**OSTEOLOGY AND ARTHROLOGY** 1. Bone as an organ: development, structure. Classification of bones. Vertebrae: their structure in different parts of the vertebral column (cervical, thoracic, lumbar, sacral, coccygeal vertebrae), variants and anomalies. Structure of ribs, sternum. 2. Structure of bones of the shoulder girdle (scapula, clavicle). Structure of bones of free part upper limb. The humerus, bones of a forearm (ulna, radius). Bones of the hand. 3. Hip (coxal) bone, femur, patella. Bones of the leg and the foot. 4. Anatomic and biomechanical classification of bone connections (articulations) their functional features. Continuous articulations (or connections - synarthrosis) of bones. Structure of a joint. Classification of synovial joints (diarthrosis) according to the number of articular surfaces, number of axes and shape of articular surfaces, and function. 5. Connections of vertebrae. The vertebral column as a whole: formation of its curvatures, movements. The atlanto-occipital joint, the atlanto-axial joints. Connections (articulations) of the skull bones (continuous connections, temporo-mandibular joint). 6. Connections of ribs with vertebrae and sternum. Thorax as a whole. 7. Connections of bones of shoulder girdle. Connections of free part of upper limb. Shoulder joint. The elbow joint, connections of bones of forearm. 8. Joints of the hand. The hand as a whole. 9. Connections of pelvic girdle. Pelvis as a whole. Age and sexual features, sizes of female pelvis. Hip joint. 10. The knee joint, connections of the leg bones and of the foot.
3.	**THE SKULL** 1. Development of the skull in ontogenesis. Individual, age and sexual features of a skull. Variants and anomalies of cranial bones. 2. The skull. Cranial part. Occipital, parietal and frontal bones. Sphenoid bone, its parts, foramina. Temporal bone, structure, its canals. Ethmoid bone. 3. Bones of the facial (visceral) skull: maxilla, mandible, zygomatic, nasal, palatine, lacrimal, inferior nasal concha, vomer, hyoid. 4. The skull as a whole. Calvaria. The base of the skull. Internal and external surfaces. 5. Temporal, infratemporal and pterygo-palatine fossae, their topography. Facial skull. 6. The orbit, bones of walls, apertures. The nasal cavity. The paranasal sinuses. Palatum osseum.
4.	**MYOLOGY (THE MUSCULAR SYSTEM)** 1. General anatomy of muscles, structure of muscles as an organ. Development of skeletal muscles, their classification (according to form, structure, arrangement, etc.). Muscles sinergists and antagonists. The auxiliary apparatus of muscles: fasciae, synovial sheaths and bursae, their structure and function; sesamoid bones: their position and function. Muscles and fasciae of the head: muscles of facial expression (mimic), masticatory muscles. 2. Muscles of the neck. Topography of the neck (Triangles of the neck). Fasciae of the neck. Fasciae spaces of the neck. 3. Muscles and fasciae of the back. 4. Muscles and fasciae of the thorax (chest). Diaphragm. 5. Muscles of the abdomen. 6. The sheath of the rectus abdominis muscle. The linea alba. The inguinal canal, its walls, deep and superficial rings; contents of the inguinal canal. Weak places of the anterior abdominal wall. 7. Muscles and fasciae of the shoulder girdle. Muscles and fasciae of the arm. 8. Muscles of the forearm: anterior group. 9. Muscles of the forearm: posterior group. 10. Muscles of the hand. 11. Fasciae and topography of the upper limb (The axillary fossa. The canal of the radial nerve. The bony-fibrous (osteo-fibrosus) canals and synovial sheaths of the hand). 12. Muscles of the pelvic girdle.

	13. Muscles of the thigh. 14. The muscles of the leg. 15. Muscles of the foot. 16. Fasciae and topography of the lower limb. The structures under the inguinal ligament (muscular and vascular lacunae). The adductor canal, its walls. The femoral triangle.
5.	**SPLANCHNOLOGY** **<u>The digestive system</u>** 1. Development of the digestive system. The mouth: lips, oral cavity (oral vestibule, hard and soft palate). The teeth (deciduous and permanent), their structure, the dental row, the dental formula and the eruption time of deciduous and permanent teeth. 2. The tongue: development, structure, functions. Salivary glands (the parotid, sublingual and submandibular salivary glands, small salivary glands). 3. The pharynx: structure, parts, topography. The lymphoepithelial (Pyrogov`s) ring of pharynx (ring of tonsils). 4. The esophagus: topography (skelepotopy, syntopy and holotopy), structure, constrictions. 5.The stomach: structure, topography, position (relation) according to peritoneum, ligaments. 6. The small intestine: its parts, topography, position according to peritoneum, structure of its wall (the duodenum, mesenteric part of the small intestine (jejunum and ileum)). 7. The abdominal cavity, its walls. Regions of anterior abdominal wall. The peritoneum, peritoneal cavity, variants of organ position (relation) according to peritoneum. 8. The large intestine: its parts, their topography, position according to peritoneum; the structure of a wall. The caecum: structure, position according to peritoneum, topography of the vermiform appendix. The rectum: topography, position according to peritoneum, the structure of its wall. 9. The liver: structure, topography, ligaments, functions, features of blood supply. 10. The gallbladder. Paths for bile excretion (the ducts of the gallbladder and the liver). 11. The pancreas: topography, structure, ducts, endocrine part, functions. 12. The peritoneal cavity. Topography of the peritoneum in the upper storey of the peritoneal cavity. The lesser omentum and omental, hepatic and pregastric bursae and their walls. 13. Topography of the peritoneum in the middle and lower storeys of the peritoneal cavity. The greater omentum. The recesses, grooves, sinuses of walls of the peritoneal cavity, pouches of the pelvis.
6.	**UROGENITAL APPARATUS (THE URYNARY SYSTEM. THE REPRODUCTIVE SYSTEM)** 1. The kidneys: development, topography, structure, their coats, position according to peritoneum, supporting apparatus, functions. Functional unit of the kidney – nephron. Blood supply of the kidneys: intrarenal division of vessels. Excretory apparatus. 2. The ureter, the urinary bladder, their structure, topography, position according to peritoneum. The female urethra. 3. Development of the Reproductive system. Male genital organs. The testis, structure, endocrine part of the testis. The epididymis. 4. The prostate, the seminal vesicles. The bulbo-urethral glands (Cowper`s), their relation to the urethra. 5. The spermatic cord, its components. The ductus (vas) deferens. Semen-conveying ducts (Reproductive system ducts in Males). 6. Male external genital organs (penis, scrotum). The male urethra. 7. Female genital organs. The ovary, topography, structure, position according to the peritoneum, endocrine part of the ovary. The uterine tube: structure, position according to peritoneum. 8. The uterus: parts, topography, ligaments, position according to peritoneum. The vagina: structure, topography, position according to peritoneum. 9. Female external genitalia (pudendum femininum). The perineum: parts. Muscles and fasciae of the perineum (male and female). Peritoneum of the pelvic cavity in the male and female pelvis. Its relation to the rectum, the urinary bladder, the uterus and other organs.

7.	**THE RESPIRATORY SYSTEM** 1. Development of the Respiratory system. Two parts: upper respiratory system and lower respiratory system; two portions: conducting and respiratory. The external nose. The nasal cavity (olfactory and respiratory areas). The paranasal sinuses. 2. The larynx: cartilages, joints, the elastic cone of the larynx, the relief of the internal surface (mucous membrane) of the larynx. Muscles of the larynx, their classification, functions. The trachea and primary bronchi, structure, topography. 3. The lungs: development, topography (skelepotopy, syntopy and holotopy). The segmental structure of the lungs. The roots of right and left lungs: anatomy and topography. Division of bronchi (bronchial tree, alveolar tree), structural and functional unit of the lungs – acinus. Blood supply of the lungs. 4. The pleura: parts, borders; the pleural cavity, pleural recesses. The mediastinum: parts, organs of the mediastinum, their topography.
8.	**CARDIOVASCULAR SYSTEM** 1. General anatomy of blood vessels. The heart: development, structure of the heart. Chambers of the heart: structure. Layers of the heart walls. The features of the myocardium of atria and ventricles. Conducting system of the heart. Topography, projection of borders and valves of the heart on the anterior thoracic wall. Blood supply of the heart, coronary circulation. The pericardium, its topography. The vessels of the pulmonary circulation (general characteristic), their distribution in lungs. The Systemic circulation. 2. General anatomy of blood vessels. Distribution of General anatomy of blood vessels. 3. The aorta and its parts. Branches of arch of the aorta. The external carotid artery, its topography, branches and areas, supplied by them. arteries. 4. The internal carotid artery, topography, branches. The subclavian artery: topography, branches and areas supplied by them. Blood supply of the brain and the spinal cord (cervical part). 5. The axillary and brachial arteries: topography, branches and areas, supplied by them. The arteries of the forearm: topography, branches, areas, supplied by them. Collateral blood circulation at the region of the elbow joint. The arteries of the hand. Arterial palmar arches and their branches. Collateral blood circulation (main collateral artery) at the upper limb, practical significance. 6. Thoracic part of the aorta, branches (parietal and visceral). The visceral (paired and unpaired) branches of the abdominal aorta. The parietal (paired and unpaired) branches of the abdominal part of the aorta. Features of their distribution and anastomoses. 7. The common iliac artery, external and internal iliac arteries, their branches. 8. The femoral and the popliteal arteries: topography, branches and areas, supplied by them. Blood supply of the hip and the knee joints. 9. The arteries of the leg: topography, branches and areas, supplied by them. The arteries of the foot: topography, branches and areas, supplied by them. 10. Veins of the Systemic circulation. The superior vena cava, the main tributaries and its topography. The brachiocephalic veins, their formation, tributaries. The azygos and hemiazygos veins. 11. The veins of the brain, the venous blood sinuses of the dura mater, the emissary and diploic veins. Intracranial and extracranial ways of outflow from the brain.. 12. Superficial and deep veins of the upper limb and their topography 13. The inferior vena cava, sources of its formation and topography. The tributaries of the inferior vena cava and their anastomoses. 14. The common iliac veins, external and internal iliac veins, their tributaries; venous plexuses of the true pelvis. 15. Superficial and deep veins of the lower limb and their topography. 16. The hepatic portal vein. Its tributaries, their topography; the distribution of portal vein in the liver. Intersystemic and intrasystemic anastomoses of veins (porto-caval, cava-caval anastomoses). 17. The spleen: development, topography, structure, position according to peritoneum, ligaments.

9.	**PERIPHERAL NERVOUS SYSTEM** 1. Anatomy of spinal cord; meninges of the spinal cord; Intermeningeal spaces. Spinal segment. 2. Spinal nerve, its branches. Anterior branches of thoracic nerves. 3. Cervical plexus, its branches, areas of innervations. 4. Brachial plexus, , its branches, areas of innervations. 5. Lumbar and sacro-coccygeal plexus, , its branches, areas of innervations. 6. Formation, topography and areas of innervation of the intercostal nerves.

10. SELF- STUDY WORK OF STUDENTS

Form of education: intramural

Name of sections and topics	The content of work	Volume in hours	Form of control
1 Half-year. Section 1. The history of anatomy. Ontogenesis			
Topic 1. Introduction to human anatomy.	**Study of literature** **Questions on the topic:** 1. Human anatomy as a fundamental medicine science, its methods and significance. 2. Organism as a holistic system. Anatomical nomenclature. The development of anatomical knowledge. 3. The works of Aristotle, Herophilius, Galen and Avicenna in the development of anatomy. 4. Anatomy in the Renaissance.	6	exam
Topic 2. Ontogenesis of human.	**Study of literature** **Questions on the topic:** 1. The initial stages of ontogenesis. 2. Characteristics of early stages.	2	exam
Topic 3. Introduction to human embryology.	**Study of literature** **Questions on the topic:** 1.Phase of prenatal development. 2. Histogenesis and organogenesis of the main system. 3. Critical periods of fetal development. 4. Characteristics of retension organs. 5. Periods of postnatal development.	4	exam
Section 2. Osteology			
Topic 4. Bones of trunk.	**Study of literature** **Questions on the topic:** 1.The axis and atlas. 2. Cervical vertebrae, thoracic vertebrae, lumbar vertebrae, sacral vertebrae, coccygeal vertebrae. 3. The ribs and breast bone.	2	exam
Topic 5. Bones of skull. Cranial Skeleton.	**Study of literature** **Questions on the topic:** 1.The bones of cranial skull : frontal bone, cuneiform bone, occipital bone, parietal bone, ethmoid bone, temporal bone.	2	exam
Topic 6. Bones of	**Study of literature**	2	exam

skull. Facial Skeleton.	**Questions on the topic:** 1.The bones of facial skull: upper and lower jaw, vomer, inferior nasal concha, palatine bone, nasal bone, lacrimal bone, zygomatic bone, hyoid bone.		
Topic 7. Development of the bones of skull.	**Study of literature** **Questions on the topic:** 1.Features of structure of the skull of newborn. 2. Dimorphism of the skull. 3.Abnormalities of development of bones of the skull. 4. X-ray anatomy of skull bones.	8	exam
Section 3. Arthrology			
Topic 8. General arthrosyndesmology.	**Study of literature** **Questions on the topic:** 1.Types of continuous join. 2. Features of structure of joints. 3. The signification about complex and combined joints. 4. Formation of spinal curvature to ontogenesis. 5. Abnormalities of development of backbone and thorax. 6. X-ray anatomy of joints of trunk and limbs.	5	exam and practical skills
Topic 9. The bones and joints of postnatal ontogenesis.	**Study of literature** **Questions on the topic:** 1.Features of development of bones and joints of postnatal ontogenesis.	4	exam and practical skills
Topic 10. Introduction to X-ray anatomy.	**Study of literature** **Questions on the topic:** 1.Features of x-ray anatomy of organs and system of human organism. 2. The method of computer tomography and nuclear magnetic resonance.	3	exam
Topic 11. Join of the skull bones and the trunk bones.	**Study of literature** **Questions on the topic:** 1.Continuous and discontinuous join of bones of the trunk and the skull. 2. Vertebral column. 3.General anatomy of thorax.	5	exam and practical skills
Topic 12. Join of bones of the upper limb.	**Study of literature** **Questions on the topic:** 1.Continuous and discontinuous join of bones of the upper limb.	5	survey and practical skills
Topic 13. Join of bones of the lower limb.	**Study of literature** **Questions on the topic:** 1.Continuous and discontinuous join of bones of the lower limb.	5	exam and practical skills
Section 4. Miology			
Topic 14. Functional anatomy of the facial muscles.	**Study of literature** **Questions on the topic:** 1.The facial muscles, their classification and general qualification. 2. Analysis of human facial expressions.	2	exam and practical skills
Topic 15. Functional anatomy of the masticatory apparatus.	**Study of literature** **Questions on the topic:** 1.The masseter muscles, their classification and general qualification . 2.The morphology of the masticatory apparatus.	2	exam and practical skills

Topic 16. Functional anatomy of the trunk muscles.	**Study of literature** **Questions on the topic:** 1.Muscles of the trunk. their classification, structure and functions. 2. The Diaphragm, it development, topography and structure. The diaphragm and the chest muscles, it parts in breathing. 3. Muscles of the back : superficial and deep layers. 4. Abdominal press, it components. 5. The rectus sheath. The White Line. The Umbilical ring. 6. The Inguinal canal.	4	exam and practical skills
Topic 17. Anatomy and biomechanics of the joints and muscles of the upper limb.	**Study of literature** **Questions on the topic:** 1.Muscles and fasciae of the upper limb, their topography, canals, furrows and fosses. 2.Topography of axillary cavity. 3.Movements of the upper limb.	1	exam and practical skills
Topic 18. General questions about medicine anthropology.	**Study of literature** **Questions on the topic:** 1.Morphology of human as a section of human science, its principles and ways. 2. Anthropometry as the complex of morphological and functional features.	5	exam
Topic 19. Classification of muscles.	**Study of literature** **Questions on the topic:** 1.Classification of muscles. 2. Auxiliary apparatus of muscles.	2	exam
Topic 20. Bone-fascias and intermuscular space of calvarium.	**Study of literature** **Questions on the topic:** 1.The bone-fascias and intermuscular space of calvarium, temporal area and lateral area of face, its topography, walls, contains and signification.	3	exam
I term		**72**	
2 Half-year. Section 5. Viscerology			
Topic 21. Embryogenesis of the cardiovascular system.	**Study of literature** **Questions on the topic:** 1.Development of the heart. 2. Generation and fusion of the developing heart tubes. 3. Partitioning the atria and the ventricles. 4. Development of the arteriosus vasculature. 5. Development of the venous vasculature.	2	exam
Topic 22. Particular anatomy of the lymphatic system.	**Study of literature** **Questions on the topic:** 1.Structure of the lymphatic system. 2. Larger lymphatic vessels, trunks, and ducts. 3. The structure and function of the primary and secondary lymphatic organs.	3	exam
Topic 23. The organs of the oral cavity. Feature of structure	**Study of literature** **Questions on the topic:** 1.Dentoalveolar apparatus of children and adults. 2. Feature of structure of upper and lower row of teeth.	3	exam and practical skills

of newborn.	3.Time of cutting out of first and permanent teeth.		
Topic 24. Normal feature and pathology in X-ray anatomy of teeth and jaw in the different view.	**Study of literature** **Questions on the topic:** 1.Features of X-ray anatomy of teeth and jaw in the different view.	3	exam
Topic 25. Development, abnormalities of development and X-ray anatomy of the organs of digestive system.	**Study of literature** **Questions on the topic:** 1.Development and features of structure of organs of digestive system of newborns and adults. 2. Abnormalities of development of digestive system.	2	exam
Topic 26. Upper airways. Features of structure and development of adult and newborn.	**Study of literature** **Questions on the topic:** 1.Paranasal sinuses. 2. Antrum of Highmore, its anatomy, functional signification, binding with dentoalveolar apparatus. 3. Olfactory region of nose.	3	exam
Topic 27. Development, abnormalities of development and X-ray anatomy of the organs of urinary system.	**Study of literature** **Questions on the topic:** 1.Features of embryogenesis of urinary apparatus. 2. Abnormities of development of urinary apparatus. 3.Features of x-ray anatomy of kidneys, ureters and urinary bladder.	4	exam
Topic 28. Features of structure and development of genitals.	**Study of literature** **Questions on the topic:** 1.Features of embryogenesis of urinary apparatus. 2. Abnormities of development of male and female genitals.	3	exam
Section 6. Angiology			
Topic 29. Development of the cardiovascular system. Features of structure of newborn.	**Study of literature** **Questions on the topic:** 1.Features of structure of newborns and children. 2. Vessels of various size, their features of structure. 3. Collateral circulation. 4. X-ray anatomy of the heart and large vessels. 5. Anastomosis of trunk and limbs vessels, their clinical signification.	3	exam
Topic 30. Blood supply of organs of head and neck	**Study of literature** **Questions on the topic:** 1.Blood supply of brain, organ of the vision and tongue.	3	Exam and practical skills
Topic 31. General anatomy of arteries structure. Collateral circulation.	**Study of literature** **Questions on the topic:** 1.Cardiovascular system, it general anatomy, development and functions. 2. Arterial system.	3	exam

	3. Microcirculation. Collateral circulation. 4. Patterns of location and branches of the main extra-organic and intra-organic arteries. 5. Structure of the microcirculation in organs and tissues. 6. Definition of collateral circulation.		
Section 8. Peripheral nervous system			
Topic 32. Functional anatomy of autonomic nervous system.	**Study of literature** **Questions on the topic:** 1.Structure and functions of autonomic nervous system. 2. Sympathetic and parasympathetic parts. Sympathetic trunk, its topography and nerves. 3. Autonomic nervous plexus of the head, neck, thorax, abdomen and pelvis. 4. Parasympathetic nervous centers of brain and spinal cord. 5. Vagus and splanchnic nerves of the peripheral nervous system.	2	exam
Topic 33. Autonomic ganglions.	**Study of literature** **Questions on the topic:** 1.Pterygopalatine ganglion, otic ganglion, sublingual ganglion, submandibular ganglion, their biding with branches of trigeminal nerve.	2	exam
II term		**36**	
3 Half-year. Section 6. Angiology			
Topic 34. The head, the neck, the chest and the upper limb, their lymphatic vessels and nodes. The lymphatic nodes of mammary gland.	**Study of literature** **Questions on the topic:** 1.Main lymphatic vessels and nodes of the head, neck, organs of thoracic cavity and upper limbs. 2. Parietal and visceral lymphatic nodes of organs of thorax. 3. Superficial and deep lymphatic vessels and nodes of the head and neck. 4. Superficial and deep lymphatic vessels and nodes of upper limb. 5. The ways of outflow of lymph from mammary gland.	4	exam and practical skills
Topic 35. The lymphatic vessels and nodes of the organs of pelvis and abdomen and lower limb.	**Study of literature** **Questions on the topic:** 1.Main lymphatic vessels and nodes of lower limbs, organs of pelvis and abdomen. 2. Superficial and deep lymphatic vessels of lower limb. 3. Popliteal and inguinal lymph nodes. Parietal and visceral lymph nodes of pelvis and abdominal cavity. 4. Lymphatic vessels and regional nodes of the stomach, small and large intestines, kidneys, liver, uterus and urinary bladder.	4	Exam and practical skills
Section 8. Peripheral Nervous System			
Topic 36. Intercostal nerves	**Study of literature** **Questions on the topic:** 1.Intercostal nerves, their topography, branches and areas of innervations. 2. Nerves and blood vessels of the walls of thorax, their topography anatomical relations.	2	Exam and practical skills
Topic 37. Nerves	**Study of literature**	3	Exam and

and blood vessels of upper limb, their topography relations. Innervation of muscles and skin of upper limb.	**Questions on the topic:** 1.Innervation of the separate group of muscles and areas of the upper limb. 2. Muscles of girdle, shoulder, forearm and hand. 3. Nerves of upper limb. 4. Topography and anatomical relation of nerves and blood vessels of the upper limb. 5. Muscles and blood vessels of upper limb.		practical skills
Topic 38. Innervation, blood supply and outflow of lymph of the organs and walls of pelvis.	**Study of literature** **Questions on the topic:** 1.Innervations, blood supply and outflow of lymph of the organs and walls of pelvis. 2. The ways of outflow of lymph by organs and walls of pelvis. 3. Muscles of pelvis. 4. External and internal artery, its branches. 5. External and internal veins, its branches and flows.	3	Exam and practical skills
Topic 39. Nerves and blood vessels of lower limb, their topography relations.	**Study of literature** **Questions on the topic:** 1.Innervations, blood supply and outflow of lymph from different group of muscles and areas of the lower limb. 2. Muscles of lower limb, its nerves and branches. 3. Topography and anatomical relation of nervous and blood vessels of the lower limb. 4. Muscles and blood vessels of lower limb.	2	Exam and practical skills
Total for the III term		**18**	

11. EDUCATIONAL-METHODICAL AND INFORMATION SUPPORT OF DISCIPLINE

a) The list of recommended literature

Main literature:

1. Sapin M. R. Textbook of human anatomy = Анатомия человека : for medical students : учебное пособие для студентов медицинских вузов (на англ. яз.) : in 2 vol. Vol. 2 / M. R. Sapin, L. L. Kolesnikov, D. B. Nikitjuk; ed. by M. R. Sapin**.** - 2nd ed. - Moscow : New Wave, 2020. - 480 с. : ил. - ISBN 978-5-7864-0211-8 (кн. 2) (в пер.). - ISBN 978-5-7864-0209-5 : 2150.00.

2. Seiden, David, Lachman, Ernest, Corbett, Siobhan A. Lachman's Case Studies in Anatomy/Seiden, David, Lachman, Ernest, Corbett, Siobhan A..- Ed.: 5th ed. rev. by David Seiden and Siobhan A. Corbett. New York : Oxford University Press. 2013.-ISBN: 9780199846085.- http://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=644737&site=ehost-live

3. Boezaart, André P. The Anatomical Foundations of Regional Anesthesia and Acute Pain Medicine Macroanatomy Microanatomy Sonoanatomy Functional Anatomy/Boezaart, André P..- Sharjah, UAE : Bentham Science Publishers. 2016.- ISBN: 9781681081922.-

http://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=1227586&site=ehost-live

Additional literature:

1. Forseen, Scott E., Borden, Neil M. Imaging Anatomy of the Human Spine : A Comprehensive Atlas Including Adjacent Structures/Forseen, Scott E., Borden, Neil M..- New York : Demos Medical. 2016.- ISBN: 9781936287826..- Access mode: http://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=1109463&site=ehost-live
2. Bridge, Pete, Tipper, David J. CT Anatomy for Radiotherapy/Bridge, Pete, Tipper, David J..- Cumbria [U.K.] : M&K Update Ltd. 2011.- http://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=400966&site=ehost-live
3. Krings, Timo, Brugge, K. G. ter Neurovascular Anatomy in Interventional Neuroradiology: A Case-Based Approach/Krings, Timo, Brugge, K. G. ter, Cruz, Juan Pablo, Geibprasert, Sasikhan.- New York : Thieme. 2015.- ISBN: 9781604068399.- http://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=969089&site=ehost-live

Educational-methodical reading

1. Human Eye and Ear Anatomy in Diagrams and Charts : Instructional recommendations on human anatomy / Zerkalova Yu. F. , M. V. Vorotnikova, R. M. Khairullin [et al.]; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2019. - Текст на англ. яз.; Загл. с экрана. - Электрон. текстовые дан. (1 файл : 692 КБ). - Текст : электронный.
http://lib.ulsu.ru/MegaPro/Download/MObject/1458

2. Methodological recommendations for students on discipline «Anatomy» (practical (laboratory) lessons) Specialty - 31.05.01 «General medicine» Form of study: intramural / J. F. Zerkalova, M. V. Vorotnikova; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : UlSU, 2019. - Загл. с экрана; На англ. яз.; Неопубликованный ресурс. - Электрон. текстовые дан. (1 файл : 307 Кб). - Текст : электронный.
http://lib.ulsu.ru/MegaPro/Download/MObject/4478

3. Methodological recommendations for self-study work of students on discipline "Anatomy" : Specialty - 31.05.01 "General medicine". Form of study: intramural / developers: J.F. Zerkalova, M.V. Vorotnikova ; Ulyanovsk State University, Faculty of Medicine, Department of Human Anatomy. - Ulyanovsk : UlSU, 2019. - Загл. с экрана; Неопубликованный ресурс. - Электрон. текстовые дан. (1 файл : 270 Кб). - Текст : электронный.
http://lib.ulsu.ru/MegaPro/Download/MObject/1837

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Position of scientific library employee	full name	signature	date
гл. библиотекарь ООП	Стадникова		2020

b) Software:

Information infrastructure of the department includes web-page on the official website of the University, its own computer lab for testing students at 8 workplaces, personal computers, the current generation (equipped with every job faculty, staff and graduate students), multimedia lecture complex (2 stationary and portable), all computers, without exception, are in the local network of

university and have access to the Internet, printers, copiers, computer hardware. 100% of lectures in the field of medical faculty provided multimedia presentations, including animations and video clips. The training process uses more than 30 electronic textbooks and open Internet resources, including the use of on-line mode during practical classes and lectures, a DVD-videos on certain sections of the subjects taught, the department organized base of electronic textbooks and atlases with your network access to the local network of educational building of the medical Faculty.

c) Database, information and reference, search systems:

1. Digital Library System:

1.1. **IPRbooks** [Электронный ресурс]: электронно-библиотечная система / группа компаний Ай Пи Эр Медиа . - Электрон. дан. - Саратов , [2019]. - Режим доступа: http://www.iprbookshop.ru.

1.2. **ЮРАЙТ** [Электронный ресурс]: электронно-библиотечная система / ООО Электронное издательство ЮРАЙТ. - Электрон. дан. – Москва , [2019]. - Режим доступа: https://www.biblio-online.ru.

1.3. **Консультант студента** [Электронный ресурс]: электронно-библиотечная система / ООО Политехресурс. - Электрон. дан. – Москва, [2019]. - Режим доступа: http://www.studentlibrary.ru/pages/catalogue.html.

1.4. **Лань** [Электронный ресурс]: электронно-библиотечная система / ООО ЭБС Лань. - Электрон. дан. – С.-Петербург, [2019]. - Режим доступа: https://e.lanbook.com.

1.5**. Znanium.com** [Электронный ресурс]: электронно-библиотечная система / ООО Знаниум. - Электрон. дан. – Москва, [2019]. - Режим доступа: http://znanium.com.

2. КонсультантПлюс [Электронный ресурс]: справочная правовая система. /Компания «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2019].

3. База данных периодических изданий [Электронный ресурс] : электронные журналы / ООО ИВИС. - Электрон. дан. - Москва, [2019]. - Режим доступа: https://dlib.eastview.com/browse/udb/12.

4. Национальная электронная библиотека [Электронный ресурс]: электронная библиотека. - Электрон. дан. – Москва, [2019]. - Режим доступа: https://нэб.рф.

5. Электронная библиотека диссертаций РГБ [Электронный ресурс]: электронная библиотека / ФГБУ РГБ. - Электрон. дан. – Москва, [2019]. - Режим доступа: https://dvs.rsl.ru.

6. Федеральные информационно-образовательные порталы:

6.1. Информационная система Единое окно доступа к образовательным ресурсам. Режим доступа: http://window.edu.ru

6.2. Федеральный портал Российское образование. Режим доступа: http://www.edu.ru

7. Образовательные ресурсы УлГУ:

7.1. Электронная библиотека УлГУ. Режим доступа : http://lib.ulsu.ru/MegaPro/Web

7.2. Образовательный портал УлГУ. Режим доступа : http://edu.ulsu.ru

AGREED:

Position of information technology Department employee | full name | signature | date

11. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE

Audiences for the conduct lectures, for practical work, for ongoing monitoring and intermediate certification, group consultations.

Conducting lectures:
1. The lecture hall (№ 404, Building 4, Sviyaga River Embankment, 106)

Conducting practical training, ongoing monitoring and intermediate certification, group consultations:
1. Classroom № 01 for 16 seats.
2. Classroom № 02 for 26 seats.
3. Classroom № 04 for 26 seats.
4. Classroom № 012 for 26 seats.
5. Classroom № 014 for 40 seats.

Audiences are located at: Ulyanovsk, st. Architect Livchak, 2/1, Faculty of Medicine (ground floor). The classrooms are equipped with specialized furniture, a training board. The lecture halls are equipped with multimedia equipment to provide information to a large audience. The premises for independent work are equipped with computer equipment with the ability to connect to the Internet and provide access to an electronic educational information environment, an electronic library system.

The rooms for independent work are equipped with computer equipment with the ability to connect to the Internet and provide access to an electronic educational information environment, an electronic library system.

The list of equipment used in the educational process:
1. Multimedia projector - 1 pc.
2. Screen - 1 pc.
3. Speakers - 1 pc.
4. Laptop - 1 pc.
5. Epson printer - 3 pcs.
6. Angioneurological drug of the child
7. Set of educational anatomical exhibits
8. Human Myological Drug
9. Natural preparations of bones and joints
10. Anatomical posters on myology and splanchnology
11. Natural preparations of internal organs

13. SPECIAL CONDITIONS FOR STUDENTS WITH DISABILITIES

Education for BPEP HE students with disabilities is carried out taking into account the peculiarities of psychophysical development, individual empowerment and health status of the students. Education of students with disabilities can be arranged as a shared with other students, as well as separately. If necessary, students from the number of persons with disabilities (at the request of the student) can offer some of the following information perception options tailored to their individual psycho-physical features:

– for the visually impaired: in printed form in large print; in the form of an electronic document; in the form of an audio file (translation of educational materials in audio format); in printed form in Braille; individual consultations involving tactile interpreter; individual tasks and advice.

– for persons with hearing impairments: in printed form; in the form of an electronic document; videos with subtitles; individual counseling with the involvement of a sign language interpreter; individual tasks and advice.

– for people with disorders of the musculoskeletal system: in printed form; in the form of an electronic document; in the form of an audio file; individual tasks and advice. "

If it is necessary to use partially / exclusively distance educational technologies in the educational process, the organization of teaching staff work with students with disabilities and disabled people is provided in the electronic information and educational environment, taking into account their individual psychophysical characteristics.

Разработчики:

Доцент / _____ / Зеркалова Ю.Ф. /
Должность подпись ФИО

Доцент / _____ / Воротникова М.В. /
Должность подпись ФИО

Согласовано:

Зав. кафедрой / _____ / Хайруллин Р.М. /
Должность подпись ФИО

REVISION SHEET
to the working program « Anatomy »
speciality 31.05.01 General medicine

No	Content of the change or link to the attached text of the change	Head of the department, implementing the discipline	Signature	Date
1.	Внесение изменений в п.п. 4.2 Объем дисциплины по видам учебной работы п. «Общая трудоемкость дисциплины» с оформлением приложения 1	Воротникова М.В.		16.03. 2020
2.	Внесение изменений в п. 13 «Специальные условия для обучающихся с ограниченными возможностями здоровья» с оформлением приложения 2	Воротникова М.В.		16.03. 2020
3.	Внесены изменения в п. 11 «Учебно-методическое и информационное обеспечение дисциплины» в п.п. в) Профессиональные базы данных, информационно-справочные системы с оформлением приложения 3	Воротникова М.В.		22.06. 2020

Supplement 1

4.2. Volume discipline by type of study (in hours)

Type of academic workload	**Number of hours (form of study_____intramural____)**			
	Total in the plan	**Throughout the terms**		
		term № 1	**term № 2**	**term № 3**
1	2	3	4	5
Student-Teacher activity	**234**	**108/108***	**72/72***	**54/54***
Classes:	234	108	72	54
Lectures	54	36/36*	18/18*	-
Practical classes	180	72/72*	54/54*	54/54*
Laboratory work	-	-	-	-
Self-study work	**126**	**72**	**36**	**18**
Types of midterm assessment (exam, test)	Test, Exam (1 Credit)-**36**	-	Test	Exam (1 Credit) **36**
Total hours on the discipline	**396 (11 Credit)**	**180 (5 Credit)**	**108 (3 Credit)**	**108 (3 Credit)**

*The number of hours of teaching staff work with students in a distance format using e-learning.
(*Количество часов работы ППС с обучающимися в дистанционном формате с применением электронного обучения.)

Supplement 2

13. SPECIAL CONDITIONS FOR STUDENTS WITH DISABILITIES

Education for BPEP HE students with disabilities is carried out taking into account the peculiarities of psychophysical development, individual empowerment and health status of the students. Education of students with disabilities can be arranged as a shared with other students, as well as separately. If necessary, students from the number of persons with disabilities (at the request of the student) can offer some of the following information perception options tailored to their individual psycho-physical features:

– for the visually impaired: in printed form in large print; in the form of an electronic document; in the form of an audio file (translation of educational materials in audio format); in printed form in Braille; individual consultations involving tactile interpreter; individual tasks and advice.

– for persons with hearing impairments: in printed form; in the form of an electronic document; videos with subtitles; individual counseling with the involvement of a sign language interpreter; individual tasks and advice.

– for people with disorders of the musculoskeletal system: in printed form; in the form of an electronic document; in the form of an audio file; individual tasks and advice.

If it is necessary to use partially / exclusively distance educational technologies in the educational process, the organization of teaching staff work with students with disabilities and disabled people is provided in the electronic information and educational environment, taking into account their individual psychophysical characteristics.

Supplement 3

11. EDUCATIONAL-METHODICAL AND INFORMATION SUPPORT OF DISCIPLINE

c) Database, information and reference, search systems:

1. Электронно-библиотечные системы:

1.1. IPRbooks : электронно-библиотечная система : сайт / группа компаний Ай Пи Ар Медиа. - Саратов, [2020]. – URL: http://www.iprbookshop.ru. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. ЮРАЙТ : электронно-библиотечная система : сайт / ООО Электронное издательство ЮРАЙТ. – Москва, [2020]. - URL: https://www.biblio-online.ru. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. Консультант студента : электронно-библиотечная система : сайт / ООО Политехресурс. – Москва, [2020]. – URL: http://www.studentlibrary.ru/catalogue/switch_kit/x2019-128.html. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Лань : электронно-библиотечная система : сайт / ООО ЭБС Лань. – Санкт-Петербург, [2020]. – URL: http://www.studentlibrary.ru/pages/catalogue.htmlhttps://e.lanbook.com. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. **Znanium.com :**электронно-библиотечная система : сайт / ООО Знаниум. - Москва, [2020]. - URL: http://www.studentlibrary.ru/pages/catalogue.html http://znanium.com. – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

2.КонсультантПлюс [Электронный ресурс]: справочная правовая система. /ООО «Консультант Плюс» - Электрон. дан. - Москва :КонсультантПлюс, [2020].

3. Базы данных периодических изданий:

3.1. База данных периодических изданий : электронные журналы / ООО ИВИС. - Москва, [2020]. – URL: https://dlib.eastview.com/browse/udb/12. – Режим доступа : для авториз. пользователей. – Текст : электронный.

3.2. eLIBRARY.RU: научная электронная библиотека : сайт / ООО Научная Электронная Библиотека. – Москва, [2020]. – URL: http://elibrary.ru. – Режим доступа : для авториз. пользователей. – Текст : электронный

3.3. «Grebennikon» : электронная библиотека / ИД Гребенников. – Москва, [2020]. – URL: https://id2.action-media.ru/Personal/Products. – Режим доступа : для авториз. пользователей. – Текст : электронный.

4. Национальная электронная библиотека : электронная библиотека : федеральная государственная информационная система : сайт / Министерство культуры РФ ; РГБ. – Москва, [2020]. – URL:http://www.studentlibrary.ru/pages/catalogue.htmlhttps://нэб.рф. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

5. SMARTImagebase // EBSCOhost : [портал]. – URL: https://ebsco.smartimagebase.com/?TOKEN=EBSCO-1a2ff8c55aa76d8229047223a7d6dc9c&custid=s6895741. – Режим доступа : для авториз. пользователей. – Изображение : электронные.

6. Федеральные информационно-образовательные порталы:

6.1. Единое окно доступа к образовательным ресурсам : федеральный портал / учредитель ФГАОУ ДПО ЦРГОП и ИТ. – URL: http://window.edu.ru/. – Текст : электронный.

6.2. Российское образование : федеральный портал / учредитель ФГАОУ ДПО ЦРГОП и ИТ. – URL: http://www.edu.ru. – Текст : электронный.

7. Образовательные ресурсы УлГУ:

7.1. Электронная библиотека УлГУ : модуль АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: http://lib.ulsu.ru/MegaPro/Web. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

7.2. Образовательный портал УлГУ. – URL: http://edu.ulsu.ru. – Режим доступа : для зарегистр. пользователей. – Текст : электронный.

Согласовано:

зам. нач. УИТ / Клочкова В.В. / 09.06.2020г.

Должность сотрудника УИТиТФИО / ФИО / подпись / дата