FEDERAL STATE BUDGETARY
EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
"AMUR STATE MEDICAL ACADEMY"
OF THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

AGREED
Vice-Rector for Academic Affairs,

_____N.V. Loskutova

April 17, 2025

Decision of the CCMC
April 17, 2025
Protocol No. 7

APPROVED
by the decision of the Academic Council of the Federal State Budgetary Educational Institution of Higher Education
Amur State Medical Academy of the Ministry of Health of the Russian Federation
April 22, 2025

Protocol No. 15

Acting Rector of the Federal State Budgetary Educational Institution of Higher Education
Amur State Medical Academy
Ministry of Health of the Russian Federation

_____I.V. Zhukovets

April 22, 2025

ДОКУМЕНТ ПОДПИСАН
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат: 50AB2242604E64520B52614FA420034A
Владелец: Жуковец Ирина Валентиновна
Действителен: с 15.04.2025 до 09.07.2026

EDUCATIONAL PROGRAM
discipline "Anatomy"

Specialty: 31.05.01 General Medicine
Course: 1, 2
Semester: 1, 2, 3
Total hours: 360 hrs.
Total credits: 10 credit units
Control form: examination, 3 semester

Blagoveshchensk, 2025

The educational program of the discipline is designed in accordance with the requirements of the Federal State Educational Standard of Higher Education - specialist in specialty 31.05.01 General Medicine, approved by the order of the Ministry of Education and Science of Russia dated 08.12.2020 No. 988 (registered with the Ministry of Justice of Russia on 08.26.2020 No. 59493), BPEP HE (2021).

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Head of the State Budgetary Healthcare Institution of the Amur Region "Amur Bureau of Forensic Medicine" of the Ministry of Health of the Amur Region, Honored Doctor of the Russian Federation A.N. Bokin

APPROVED at the meeting of the Department of Anatomy and Operative Surgery, Protocol No. 12 dated April 8, 2025

Head of Department, Ph.D. of Medical Sciences,
Associate Professor _____ **Yu.A. Shakalo**

Conclusion of the Expert Commission for Review of Educational Programs:
Protocol No. 3 dated April 9, 2025

Expert of the Expert Commission, Ph.D. of Medical Sciences,
Associate Professor _____ **Yu.A. Shakalo**

APPROVED at the meeting of the CMC No. 2:
Protocol No. 7 dated April 10, 2025

Chairman of the CMC No. 2
Holder of an Advanced Doctorate (Doctor of Sciences) in Biological Sciences,
Associate Professor _____ **I.Yu. Sayapina**

AGREED: Dean of the Faculty of Medicine,
Ph.D. of Medical Sciences, Associate Professor _____ **N.G. Brush**

April 17, 2025

CONTENTS

EXPLANATORY NOTE

1.1. Course Description

Anatomy, as an academic discipline, examines the form, structure, and development of the human body. It is a branch of biology and is taught in accordance with the federal state educational standard for higher education over a period of 1.5 years. The curriculum consists of lectures and practical classes. The object of study is the human body, whose structure is examined from a systems and evolutionary perspective. The subject is illustrated with biological material, models, models, tables, and multimedia information sources. The use of this entire set of pedagogical techniques allows students to attain a level of knowledge and skills by the end of their studies that enable them to collect information and analyze the main physiological and pathological processes in the body, as well as to develop a natural-scientific and dialectical worldview in future physicians.

1.2. Course Objectives and Tasks.

The purpose of this course is to develop students' knowledge of anatomy, both of the body as a whole and of individual organs and systems, based on modern advances in macro- and microscopy; to develop the ability to apply this knowledge in subsequent study of other fundamental and clinical disciplines, as well as in future professional activities of a physician.

Learning Objectives of the Course:

 Students will study the structure, functions, and topography of human body organs, the anatomical and topographic relationships of organs, individual and age-related characteristics of the body's structure, including the prenatal period of development (organogenesis), variations in the variability of individual organs, and their developmental defects;

 Students will develop knowledge of the interdependence and unity of the structure and function of both individual organs and the body as a whole, the relationship between the body and changing environmental conditions, and the influence of environmental and genetic factors, the nature of work, profession, physical education, and social conditions on the development and structure of the body;

 developing in students a comprehensive approach to studying the anatomy and topography of organs and their systems; a synthetic understanding of the structure of the human body as a whole as the interrelationships between its individual parts; and an understanding of the importance of fundamental anatomical research for applied and theoretical medicine;

 developing in students the ability to navigate the complex structure of the human body, accurately and precisely locate and determine the locations and projections of organs and their parts on the body's surface, i.e., mastery of "anatomical material" for understanding pathology, diagnosis, and treatment;

 educating students, guided by the traditional principles of humanism and compassion, and a respectful and caring attitude toward the object of study—the organs of the human body, and the corpse;

 instilling high moral standards of behavior in the dissection rooms of the medical school.

1.3. Course Placement in the Structure.

The discipline's place in the structure of the Basic Educational Program of Higher Education

In accordance with the Federal State Educational Standard of Higher Education (FSES HE) – a specialist program in specialty 31.05.01 General Medicine (2020), the discipline "Anatomy" is included in the disciplines of the Basic Part, Block 1. The total coursework is 360 hours (10 credits). Of these, 216 hours are in the classroom, 108 hours are allocated for independent student work. Assessment is by examination.

 To study the discipline "Anatomy," students must have the knowledge, skills, and abilities developed in the biology, physics, and chemistry curriculum in secondary (complete) general education institutions. Students should understand the principles of the macro- and microscopic structure of the human body; understand the chemical structure of its constituent tissues; understand the physical laws that determine the structure and function of all organs and systems of the human body; be able to draw diagrams of these structures; and recognize anatomical structures on models, tablets, and tables.

Mastery of the Anatomy course precedes the study of:
- Normal physiology, pathophysiology, and clinical pathophysiology;
- Topographic surgery and operative surgery;
- Pathological anatomy, clinical pathological anatomy;
- General surgery;
- Propaedeutics of internal medicine;
- Traumatology, orthopedics;
- Neurology, neurosurgery;
- Obstetrics and gynecology;
- Other clinical disciplines.

Parallel courses that provide interdisciplinary connections within the core curriculum include: bioorganic chemistry in medicine; physics, mathematics; biology, history of medicine, foreign language, and Latin.

The Anatomy course consists of eight sections, which present the most important and essential information that defines the educational process:

1. Introduction to the course;
2-musculoskeletal system;
3-splanchnology;
4-cardiovascular system;
5-immune system organs and lymphatic drainage pathways;
6-endocrine glands;
7-neurology;
8-esthesiology.

1.4. Student Requirements

To study the course "Anatomy," students must possess the necessary knowledge, skills, and abilities developed in secondary (complete) general education institutions:

Physics

Knowledge: the basic physical properties of biologically important inorganic and organic substances in various states of aggregation.

Skills: predict changes in the energy state of substances during chemical interactions, and the properties of aqueous solutions.

Skills: use mathematical apparatus and computers to calculate physical quantities characterizing the behavior of substances.

Chemistry

Knowledge: the basic principles of chemical reactions, the properties of the main classes of inorganic and organic substances, the structure of molecules, and the nature of chemical bonds.

Skills: predict the potential and outcome of chemical interactions between substances in tissues.

Skills: use computers to calculate the quantitative results of chemical reactions and the quantitative composition of solutions.

Biology

Knowledge: the chemical nature of biological processes, the most important substances involved in the structure and activity of living organisms.

Skills: traces the relationship between biological and chemical processes occurring in nature and living organisms.

Skills: use computers to search for necessary information on the biological role of substances.

1.5 Interdisciplinary Connections with Subsequent Disciplines

The knowledge, skills, and abilities acquired in the anatomy course are necessary for studying subsequent disciplines:

Name of subsequent disciplines	Section numbers of this discipline

	necessary for studying subsequent disciplines							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Topographic anatomy and operative surgery		+	+	+	+	+	+	+
Normal physiology		+	+	+	+	+	+	+
Philosophy	+							
Pathological anatomy, clinical pathological anatomy		+	+	+	+	+	+	+
Pathophysiology, clinical pathophysiology			+	+	+	+	+	+
Propaedeutics of internal diseases		+	+	+	+	+	+	+
General surgery		+	+	+	+	+	+	+
Dentistry		+	+	+			+	
Neurology, neurosurgery		+	+	+	+	+	+	+
Obstetrics and Gynecology		+	+	+	+	+	+	+
Pediatrics		+	+	+	+	+	+	+
Faculty surgery, urology		+	+	+	+	+	+	+
Faculty therapy		+	+	+	+	+	+	+
Occupational diseases			+	+			+	
Otolaryngology				+			+	+
Ophthalmology				+			+	+
Psychiatry, medical psychology	+						+	
Infectious diseases			+	+			+	
Hospital surgery, pediatric surgery		+	+	+	+	+	+	+
Traumatology, orthopedics		+		+			+	
Hospital therapy		+	+	+	+	+	+	+
Endocrinology				+		+	+	
Dermatovenereology				+			+	+
Forensic medicine		+	+	+	+	+	+	+
Phthisiology			+	+		+	+	
Oncology, radiation therapy		+	+	+	+	+	+	+
Anesthesiology, resuscitation, intensive care		+	+	+	+	+	+	+

1.6 Requirements for Course Mastery

The course study process is aimed at developing/improving the following competencies (or parts thereof): universal (UK-1, 6, 8), general professional (OPK-10, 11)

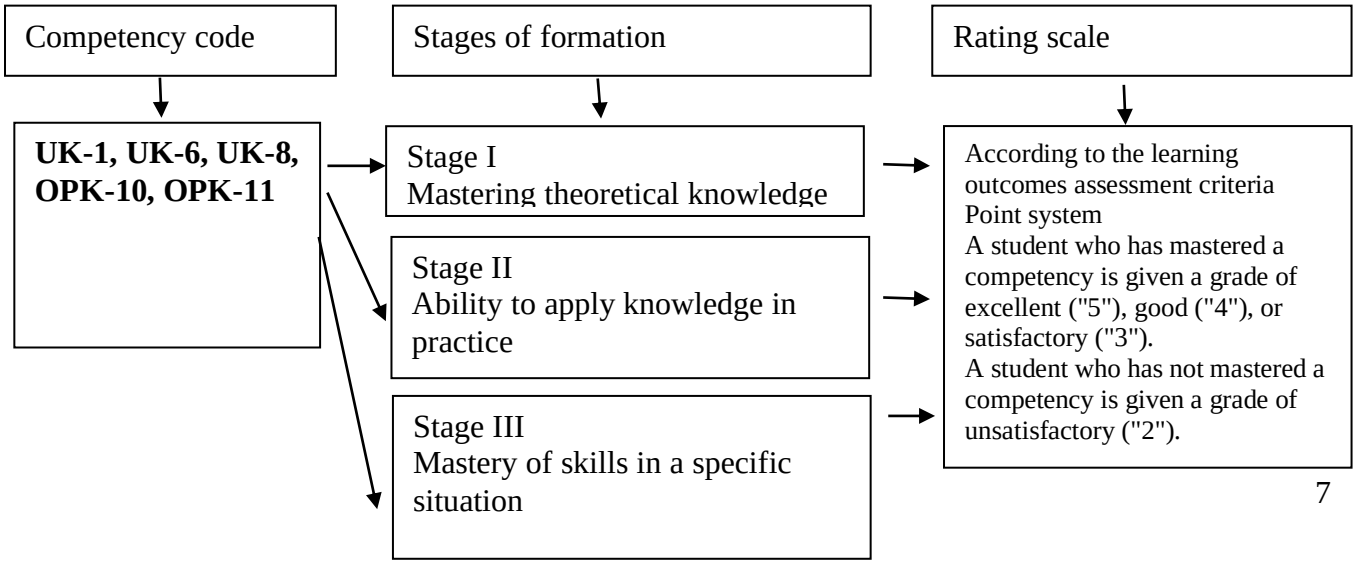
Item Code and Name of Competency	Code and Name of Competency Achievement Indicator
Universal Competencies	
UK-1: Able to critically analyze problematic situations based on a systems approach and develop an action strategy.	UK-1.1. Analyzes problematic situations based on a systems approach. UK-1.2. Develops and justifies a strategy for solving problematic situations based on a systems and interdisciplinary approach.
UK-6: Able to identify and implement personal activity priorities and methods for improvement based on self-assessment and lifelong learning.	UK-6.1. Assesses personal, situational, and time resources and utilizes them optimally to complete assigned tasks. UK-6.3. Conducts a critical self-analysis of the results of one's own activities.
UK-8. Capable of creating and maintaining safe living conditions in everyday life and professional activities to preserve the natural environment and ensure the	UK-8.4. Possesses the skills to create and maintain safe living conditions to preserve the natural environment and ensure the sustainable development

sustainable development of society, including during the threat and occurrence of emergencies and military conflicts.	of society, including during the threat and occurrence of emergencies and military conflicts.
UK-10. Capable of solving standard professional tasks using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account the basic information security requirements of ID	UK-10.2. Effectively searches for information necessary for solving professional problems, using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account basic information security requirements.
General Professional Competencies	
OPC-10. Capable of solving standard professional tasks using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account the basic information security requirements of ID	UK-10.2. Effectively searches for information necessary for solving professional problems, using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account basic information security requirements.
OPC-11. Prepares and applies scientific, research and production, design, organizational, managerial, and regulatory documentation in the healthcare system.	OPC 11.3. Interprets and applies data from scientific and research and production documentation to solve professional problems. OPC-11.4. Conducts scientific and practical research, analyzes information, and prepares publications based on research results.

Discipline Sections and Competency Code

Introduction to the Discipline – Historical Background of Anatomy, Fundamentals of Anatomical Terminology.	UK-1, UK-6, UK-8, OPK-10, OPK-1
Musculoskeletal System – Anatomy of the Skeletal System, the Theory of Bone Connections, Anatomy of the Muscular System.	UK-1, UK-6, UK-8, OPK-10, OPK-1
Splanchnology - the study of the insides	UK-1, UK-6, UK-8, OPK-10, OPK-1
Cardiovascular system - anatomy of the heart, arterial and venous systems, microvasculature	UK-1, UK-6, UK-8, OPK-10, OPK-1
Organs of the immune system and lymphatic drainage pathways	UK-1, UK-6, UK-8, OPK-10, OPK-1
Endocrine glands	UK-1, UK-6, UK-8, OPK-10, OPK-1
Neurology - anatomy of the central and peripheral nervous systems	UK-1, UK-6, UK-8, OPK-10, OPK-1
Esthesiology – Anatomy of the Senses	UK-1, UK-6, UK-8, OPK-10, OPK-1

1.7 Stages of Competency Development and Description of Assessment Scales
Competency code



1.8 Forms of Instruction and Types of Assessment

Forms of Student Instruction	**Brief Description**
Lectures	Lecture material covers key and most challenging topics in the discipline, which are crucial for specialist training.
Practical Classes	Designed to analyze (reinforce) theoretical concepts and monitor their assimilation, followed by the application of acquired knowledge during the study of the topic.
Interactive Forms of Instruction	Solving situational problems with subsequent discussion, completing creative assignments.
Participation in the department's research work, student clubs, and conferences	Preparing oral presentations and poster presentations for club presentations, scientific conferences, theses, and reviewing literary and online sources.
Types of Assessment	**Brief Description**
Entrance Assessment	An assessment (in the form of assignments) on the discipline of biology, an anatomy course (school curriculum). The results of the entrance assessment are systematized, analyzed, and used by the department's teaching staff to develop measures to improve and update teaching methods for the discipline
Ongoing Assessment	Review of assignments completed independently (outside of class); oral assessment of theoretical material; assessment of technique during practical classes; test assessment; assessment tasks (practical and theoretical) on the topic covered.
Boundary Assessment	A summative assessment of students' knowledge, conducted at the end of major sections and aimed at summarizing the results of a unified set of topics (e.g., osteology, arthrology, etc.). It is conducted as a multi-stage assessment, which focuses on identifying both theoretical knowledge and skills (answering the theoretical material, demonstrating skills in working with specimens, drawing reference diagrams and projections on a model, etc.).
Midterm Assessment	An exam that students take at the end of the third semester. The exam includes: - assessment of theoretical knowledge - testing in the Moodle system (midterm assessment test) (http://educ-amursma.ru/mod/quiz/view.php?id=907) (340 questions), - practical skills, - theoretical knowledge of the student's anatomical background.

I. DISCIPLINE STRUCTURE AND CONTENT

2.1 Scope of the Course and Types of Academic Activities

Types of Academic Work	Total Hours	Semesters		
		1	2	3
Lectures	60	20	20	20
Practical Classes	156	52	52	52
Independent Student Work	108	36	36	36
Exams	36			36
Total Hours	360	108	108	144
Total Credits	10	3	3	4

2.2 Thematic plan of lectures and their summary

Topics and content of lectures	Codes of the formed competencies	Labor intensity (hours)
Introductory lecture. The main stages of the development of anatomy. Definition of the subject of anatomy as a science. The importance of anatomy for medicine. Its place among the biological sciences and its relationship with other sciences. The struggle between materialistic tendencies and principles and idealistic views on the structure of the human body. Anatomy in the era of slavery. Anatomy in the era of feudalism. Anatomy in the era of capitalism. The history of Russian anatomy before the Great October Socialist Revolution. The development of anatomy in the modern period.	UK-1 UK-6 OPK-10	2
General Osteology Morphofunctional characteristics of bones. Skeletal development during ontogenesis and phylogenesis. Bone classification. Bone as an organ. Periosteum. Bone marrow. Age-related changes in bones. The relationship between the skeletal and muscular systems. Bone in X-ray imaging. The influence of work and sports on bone structure in living humans. The relationship between the social and biological in bone structure.	UK-1 UK-6 OPK-10	2
Morphofunctional, genetic, and anthropological characteristics of the bones of the trunk and limbs. Age-related characteristics Development of the torso bones. Bone structure of the spine. Structural features. Biomechanics of the spine. Development and anomalies of the limbs.	UK-1 UK-6 OPK-10	2
Morphofunctional, genetic, and anthropological characteristics of the cranial bones. Age-related characteristics Morphofunctional characteristics of the skull. Division of the skull into the facial and cerebral regions. Development of the skull during ontogenesis and phylogenesis. Anthropological norms of the skull. Variability of the skull. Variations and anomalies in skull structure. Critique of theories of racism in the theory of the skull.	UK-1 UK-6 OPK-10	2
General Arthrosyndesmology Development of joints during ontogenesis. Classification of joint types according to their development, function, and structure. Types of continuous joints, semi-joints. Classification of discontinuous joints by the shape of the articular surfaces and by function.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of joints. Age-related characteristics. The structure of the joint and its accessory apparatus. Dialectical categories of form and content as exemplified by the theory of joints. Types of joint movement and their elementary analysis. The significance of P.F. Lesgaft's work in the theory of bone connection.	UK-1 UK-6 OPK-10	2
General Myology Striated and smooth muscles, their structure and function. Muscle development during ontogenesis. The relationship between muscular and nervous system development. Muscles as organs. Muscle shape and classification.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of musculofascial structures Tendons and aponeuroses. Accessory muscle apparatus. Fascia. Synovial	UK-1 UK-6	2

and mucous bursae, fibrous and osteofibrous canals. Synovial sheaths. Concept of skeletal softness. Basic information on muscle strength. Anatomical and physiological muscle diameters. Concept of levers. Functional grouping of muscles based on their action and interaction (synergists and antagonists). P.F. Lesgaft on the relationship between the function and structure of muscles and bones.	OPK-10	
Topographic and clinical characteristics of the musculofascial structures of the trunk. Age-related characteristics Characteristics of the upper abdominal wall. Characteristics of the anterior abdominal wall. Characteristics of the posterior abdominal wall. Clinical significance of the anatomical features of the abdominal cavity walls. Inguinal and femoral canals. Muscles of the back and chest, their functional purpose.	UK-1 UK-6 OPK-10	2
Topographic and clinical characteristics of the musculofascial structures of the extremities. Age-related characteristics Phylogenetic development and positioning of the extremities. Ontogenesis of the extremities. Comparative anatomical characteristics of the upper and lower extremities. Anatomical characteristics of body position (standing, lying, sitting) and translational body movements (walking, running, jumping). Topographic structures of musculofascial structures in the extremities.	UK-1 UK-6 OPK-10	2
General overview and morphofunctional characteristics of internal organs Definition of the concept of internal organs. The general principle of their structure (tubularity), their genetic interrelationships, and their functional purpose in the body. Definition of the concept of the digestive organs, their general overview. Morphological and functional characteristics.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the digestive system organs Development of the oral cavity, esophagus, stomach, small and large intestines. Developmental anomalies of these organs. Topography of the peritoneum.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the digestive system organs Development of the oral cavity, esophagus, stomach, small and large intestines. Developmental anomalies of these organs. Topography of the peritoneum.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the genitourinary system General overview of urination. Kidney development. Renal developmental abnormalities. Segmental structure of the kidneys. Development of the urinary bladder and urethra. Structure of the male and female reproductive systems. Development of the male and female reproductive organs. Testicular descent.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the heart Structure and topography of the heart. Study of the heart in a living person. Ontogenesis and phylogenesis of the heart. Anatomy of cardiac development. The role of Russian scientists in uncovering the patterns and functions of the heart.	UK-1 UK-6 OPK-10	2
Morphofunctional and Genetic Characteristics of the Arterial System General information on the structure of the vascular system. History of the discovery of blood circulation. Development of the vascular system. Manifestation of the dialectical category of form and content as exemplified by the vascular system. General patterns of arterial vessel	UK-1 UK-6 OPK-10	2

distribution. Collateral circulation. Variations and anomalies in vascular development of greatest practical significance. Age-related characteristics of vessels.		
Morphofunctional and genetic characteristics of the microcirculatory bed History of the development of microcirculation theory. The role of Soviet morphological schools in the development of microcirculation theory. The design of microcirculatory systems and their clinical use.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the venous system Development of the venous system during ontogenesis and phylogenesis. Factors contributing to blood flow in the veins. Connections between veins of different zones. Functional and clinical characteristics of heterogeneous structures found in the venous system. Age-related changes in the venous system. Clinical methods for examining the venous system.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the lymphatic and immune systems Development of the lymphatic system. Structural features of the lymphatic system. Distinction between lymphatic and blood vessels. Connection between the lymphatic and venous systems. Anatomical and clinical concepts of regional lymph nodes. Factors facilitating lymph flow, methods of studying the lymphatic system. Lymphatic-venous anastomoses. The role of Russian scientists in developing the theory of the lymphatic system (Iosifov, Zhdanov, Ognev). Structural features of the organs of the immune system (central and peripheral). Their development and age-related changes.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the endocrine glands Nervous and humoral regulation, regulation, and correlation of various vital processes. Classification of endocrine glands. Age-related changes in the endocrine glands. The current state of endocrinology and its development prospects in relation to advances in chemistry. The role of Russian scientists in the development of endocrinology.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the nervous system. Anatomy of the spinal cord The nervous system and its leading role in the living organism (I.P. Pavlov). Biological integrity of the organism. The organism's relationship with the external environment. Phylogenesis and ontogenesis of the nervous system. Morphofunctional characteristics of the spinal cord. The concept of a segment and segmental apparatus of the spinal cord. Spinal cord membranes. Age-related changes.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the brainstem Brainstem structure: medulla oblongata, pons, midbrain, and intermediate. Structural features of each section (reference diagrams). Differentiation of brainstem sections during developmental stages.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the diencephalon and telencephalon Structure of the diencephalon. Structure of the telencephalon. Gray matter (basal ganglia, cortex), white matter (fiber types). Characteristics of signaling centers 1 and 2.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the conducting pathways, reticular formation, and limbic system Definition of the concept "Conducting pathways of the brain and spinal cord." Morphological and functional characteristics of the conducting pathways. Classification of conducting pathways. Pyramidal and extrapyramidal systems of conducting pathways. Their functional unity.	UK-1 UK-6 OPK-10	2

The motor analyzer as a functional integration of all analyzers. Concept of the reticular formation and limbic system.		
The study of the sense organs. Morphofunctional characteristics of the visual organ. The sensory organ as an anatomical and physiological apparatus of sensation. The concept of analyzers. Classification of analyzers. The visual organ and its morphofunctional characteristics.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the organs of hearing, taste, and smell. Skin anatomy Morphofunctional characteristics of the organs of hearing and balance. Gravity and balance receptors. Hearing, gravity, and balance analyzers. Skin as an organ. Layered structure of the skin.	UK-1 UK-6 OPK-10	2
Morphofunctional and genetic characteristics of the peripheral nervous system (cranial nerves) General concepts of the peripheral nervous system. Principle of cranial nerve formation. Classification of cranial nerves. Morphofunctional and clinical characteristics, topography, and distribution of the V, VII, IX, and X pairs of cranial nerves.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the peripheral nervous system (spinal nerves) General concepts of the peripheral nervous system. Formation of nerve plexuses. Intrastem structure of peripheral nerves. Characteristics of spinal nerve plexuses. Morphofunctional characteristics, topography, and distribution of peripheral nerves.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the parasympathetic part of the autonomic nervous system Dialectical assessment of the antagonism between the sympathetic and parasympathetic divisions of the autonomic nervous system. Adaptive and trophic role of the autonomic nervous system. Division of the autonomic nervous system into divisions. Features of the autonomic reflex arc. Characteristics of the parasympathetic system structure. Features of the formation of reflex arcs in the brain and spinal cord.	UK-1 UK-6 OPK-10	2
Morphofunctional characteristics of the sympathetic part of the autonomic nervous system Morphofunctional differences between the autonomic and somatic nervous systems. Features of the autonomic reflex arc and structural characteristics of the sympathetic part of the autonomic system. Anatomy of the sympathetic trunk.	UK-1 UK-6 OPK-10	2
Total hours		60

2.3 Thematic plan of practical classes and their content.

Name of the topics of practical classes	Contents of practical classes	Codes of developed competencies and indicators of their achievement	Types of control	Labor intensity (hours)
Incoming inspection Introduction. General osteology.	Entrance inspection Theoretical part Subject of anatomy. Methods of anatomical	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. OPK-10: ID 10.2.	Frontal survey, control	3,25

	examination. Anatomical terminology. Axes and planes of the body. Bone as an organ. Bone development. Bone classification. Dependence of bone development on internal and external factors. Practical part sketching diagrams.		schemes, input control task	
Skeleton of the trunk	Theoretical part Vertebrae, sternum, ribs. The structure of these bones. Practical part Palpation of the torso bones on a model, anthropometry, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. OPK-10: ID 10.2. OPK-11: ID 11.3.	Frontal survey, control schemes, practical skills on the drug	3,25
Skeleton of the upper limbs.	Theoretical Part The upper limb girdle includes the clavicle and scapula. The free upper limb skeleton includes the humerus, forearm bones (radius, ulna), and hand bones. Practical Part Palpation of the upper limb bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Skeleton of the lower limbs.	Theoretical Section The lower limb girdle includes the ilium, pubis, and ischium. The free lower limb skeleton includes the femur, patella, lower leg bones (tibia, fibula), and foot bones. Practical Section Palpation of the lower limb bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Skeleton of the head (bones of the braincase).	Theoretical section General characteristics of the skull. Bones of the cranial region: occipital, sphenoid, temporal, parietal, frontal, and ethmoid. Practical section Palpation of the cranial region bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Skeleton of the head (bones of the facial skull).	Theoretical Section Maxilla, palatine bone, inferior nasal concha, nasal and lacrimal bones, vomer, zygomatic bone, mandible, and hyoid bone. Age- and gender-specific characteristics of the cranial bones. Skull topography: orbit, nasal cavity; temporal, infratemporal, and pterygopalatine fossae; external and internal cranial bases. Practical Section Palpation of facial bones on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3,25
Final lesson on osteology.	Theoretical part Question on medications, theoretical and lecture material. Practical part Test of anthropometric skills.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
General arthrology. Joints of the bones of the skull and trunk.	Theoretical Section Patterns of the structure, development, and classification of joints (discontinuous, continuous, semi-joints;	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4.	Frontal survey, control	3,25

	fibrous, cartilaginous, synovial). Vertebral joints. The spinal column as a whole. Joints of the ribs and sternum. The rib cage as a whole. Joints of the cranial bones. The skull as a whole. Practical Section Determining the axes of joint motion on a model, dissection, anthropometry, preparing reports, sketching diagrams.	OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	schemes, practical skills on the drug	
Joints of the bones of the upper limb.	Theoretical Section The sternoclavicular, acromioclavicular, shoulder, and elbow joints. Joints of the forearm bones. The wrist joint. Joints of the hand bones. Practical Section Dissection, palpation of joints on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Joints of the bones of the lower limb.	Theoretical Section The pelvic bones. The pelvis as a whole. The concept of pelviometry. The hip and knee joints. The tibial joints. The ankle joint. The foot bones. The foot as a whole. Practical Section pelviometry, palpation of joints on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Final lesson on arthrology.	Theoretical section Survey on the specimens, theoretical and lecture material. Report on the specimens and preparation protocols.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3,25
General myology. Muscles of the head and neck.	Theoretical Section Patterns of muscle structure, development, and classification. Muscle as an organ. Accessory muscle apparatus (fascia, fibrous canals, synovial sheaths, bursae). Muscles of the head and neck. Major groups, topography. Practical Section Muscle dissection, palpation of muscle groups on a model, preparation of reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Muscles of the trunk (chest, back, abdomen).	Theoretical part Major muscle groups, topography. Diaphragm. Practical part Dissection, muscle palpation on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Muscles of the upper limbs.	Theoretical part Major muscle groups, topography (pits, openings, grooves, canals). Fascia and tendon sheaths. Practical part Dissection, palpation of muscle groups on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Muscles of the lower limbs.	Theoretical part Major muscle groups, topography (pits, openings, grooves, canals). Fascia and tendon sheaths. Practical part Dissection, palpation of muscle groups on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Final lesson on myology.	Theoretical section Survey on the specimens, theoretical and lecture material. Report on the specimens and preparation protocols.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3,	Frontal survey, practical skill on the drug	3,25

		11.4.		
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	Theoretical section General overview and development of the digestive system. Oral cavity, palate, tongue, teeth. Practical section Dissection, oral cavity examination on a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Pharynx, esophagus, stomach. Topography of organs.	Theoretical section Understanding the topography of internal organs (holotopy, skeletotopy, syntopy). The lines of the thorax and abdominal region. The structure of the pharynx, esophagus, and stomach. Practical section Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Small and large intestine, salivary glands, liver, pancreas.	Theoretical part The structure of the small and large intestines, salivary glands, liver, and pancreas. Practical part Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Peritoneum and its derivatives.	Theoretical section The structure of the peritoneum and its derivatives (mesentery, ligaments, omenta, bursae, pockets, canals). The relationship of organs to the peritoneum. The layers of the abdominal cavity. Practical section Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Respiratory system: nose, larynx, trachea, bronchi, lungs.	Theoretical section General overview and development of the respiratory system. Nasal cavity, larynx, trachea, bronchi, lungs. Practical section Dissection, working with a model (determining the projection contours of organs), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Pleura and mediastinal organs.	Theoretical part Pleura and mediastinum. Practical part Dissection, working with a model (determining the projection contours of organs), sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Urinary system.	Theoretical section General overview and development of the genitourinary system. Kidneys, ureters, bladder, and urethra. Practical section Dissection, working with a model, preparing reports, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes,	3,25

			practical skills on the drug	
Male reproductive system.	Theoretical part Structure of the male reproductive organs. Practical part Dissection, preparing reports, drawing diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Female reproductive system.	Theoretical section Structure of the female genital organs. Perineum (anatomical and clinical definition). Topography of the peritoneum in the pelvic region. Practical section Dissection, presentation preparation, diagramming.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Vascular system. Circulatory system. Heart, pericardium.	Theoretical Section General principles of the vascular system. Circulatory systems. Heart structure. Pericardium. Blood supply and innervation of the heart, conduction system. Projection of borders and valves. Practical Section Dissection, working with a model (determining the borders of the heart), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Aorta. Arteries of the head and neck.	Theoretical Section General principles of the structure and development of the arterial system. Aorta (ascending limb and arch). Common, external, and internal carotid arteries. Practical Section Dissection, preparing reports, working with a model (palpation of arteries), sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	Theoretical part Descending aorta (thoracic and abdominal). Parietal and visceral branches. Practical part Dissection, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Arteries of the upper and lower limbs.	Theoretical section Subclavian and axillary arteries. Arteries of the upper limb. Iliac arteries. Arteries of the lower limb. Collateral circulation. Practical section Dissection, working with a model (palpation of vessels), preparing abstracts and reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Venous system.	Theoretical Section General principles of the structure and development of the venous system. The superior and inferior vena cava, and the portal vein. Structural features of veins in various areas of the body (head, neck,	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3,	Frontal survey, solution of clinical and anatomical	3,25

	trunk, pelvis, extremities). Cava and portocaval anastomoses. Fetal circulation. Practical Section Dissection, working with a model (venous palpation), preparing reports, sketching diagrams.	11.4.	problems, control schemes, practical skills on the drug	
Lymphatic system. Immune system.	Theoretical Section General principles of the structure and development of the lymphatic system. The lymph node. Patterns of distribution of lymphatic vessels and nodes. Lymphatic vessels and nodes of specific body regions (head, neck, torso, upper and lower extremities). Practical Section Dissection, working with a model (palpation of nodes), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Endocrine glands.	Theoretical part Endocrine glands (classification, location, and structure). Practical part Dissection, working with a model (palpation of glands), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Spinal cord	Theoretical Section General principles of the structure and development of the nervous system. Spinal cord (external shape and location). Structure of gray and white matter. Concepts of the reflex arc, segment, segmental, and suprasegmental apparatus. Spinal cord membranes. Practical Section Dissection, diagramming, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Medulla oblongata, pons, cerebellum, midbrain.	Theoretical part The rhomboid and midbrain. Their external and internal structure. Practical part Dissection, drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Diencephalon, telencephalon.	Theoretical Section The diencephalon and telencephalon (basal ganglia and white matter of the hemispheres). Their external and internal structure. The concept of the olfactory brain and analyzer. Practical Section Dissection, diagramming, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Cerebral cortex.	Theoretical Part The cerebral mantle. The topography of the mantle (sulci and convolutions). The structure of the cerebral cortex. The cortical ends of the analyzers of the 1st and 2nd signal systems. Practical Part Dissection, sketching diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Conducting pathways	Theoretical Section Afferent (ascending)	UK-1: ID 1.1, 1.2.	Frontal	3,25

of the spinal cord and brain.	pathways of the spinal cord and brain. Efferent (descending) pathways of the brain and spinal cord. Concepts of: the motor analyzer; the pyramidal, extrapyramidal, and limbic systems; the reticular formation. Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	
Blood supply and cerebrospinal fluid dynamics of the brain.	Theoretical section Blood supply to the spinal cord and brain. Sinuses of the dura mater, cisterns of the subarachnoid space. Cerebrospinal fluid and its circulation. Practical section Drawing diagrams, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3,25
The organ of vision.	Theoretical Section The visual organ. General structural plan (eyeball, membranes, nucleus). Refractive media. The accommodative and accessory apparatus of the eye. Blood supply and innervation of the visual organ. Circulation pathways of the intraocular fluid. The lacrimal apparatus and conjunctiva. The visual analyzer. Reflex patterns: corneal, constricting, and dilating. Practical Section Dissection, sketching diagrams, preparing reports, working with a model (examination), solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
The organ of hearing and balance.	Theoretical Section The organ of hearing and balance. General structure (outer, middle, and inner ear). Blood supply and innervation. The mechanism of sound perception. Hearing and balance analyzers. Practical Section Dissection, sketching diagrams, preparing reports, working with a model (examination), solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
The organ of smell and taste. Skin.	Theoretical Section The olfactory and gustatory organs. Olfactory and gustatory analyzers. Skin and its derivatives. Pain, temperature, and tactile sensitivity analyzers. The mammary gland. Practical Section Drawing diagrams, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3,25
Cranial nerves: 3, 4, 5, 6, 7 pairs	Theoretical Section General overview of the 12 pairs of cranial nerves. Patterns of structure. Exit sites from the brain and skull. Oculomotor, trochlear, abducens, trigeminal, and facial nerves (nuclei, fiber composition, topography, innervation area). Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Cranial nerves: 9,10,11,12 pairs.	Theoretical Section The vagus nerve group: glossopharyngeal, vagus, and accessory nerves. Hypoglossal nerve. Nuclei, fiber composition, topography, and innervation areas. Practical Section Drawing diagrams, preparing reports, and solving clinical and	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems,	3,25

	anatomical problems.		control schemes, practical skills on the drug	
Spinal nerves and their branches: cervical and brachial plexus.	Theoretical Section Spinal nerve and its branches. Formation of plexuses. Posterior rami of spinal nerves and their distribution areas. Cervical and brachial plexuses (topography, branches, innervation areas). Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Thoracic nerves, lumbar plexus.	Theoretical section Nerves of the chest and abdominal walls, lumbar plexus (topography, branches, innervation areas). Practical section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Sacral and coccygeal plexus. Innervation of the skin.	Theoretical Section Sacral plexus (topography, branches, innervation areas). UIRS – dissection, diagramming, report preparation, solving clinical and anatomical problems. Skin innervation. Zakharyin-Ged zones. Practical Section diagramming	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Parasympathetic division of the autonomic nervous system.	Theoretical Section General characteristics of the autonomic nervous system. Parasympathetic division (patterns of structure, nodes, distribution of branches, cranial and sacral divisions). Concept of parasympathetic reflex arcs. Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Sympathetic division of the autonomic nervous system.	Theoretical Section The sympathetic division of the autonomic nervous system (patterns of structure, trunks, nodes, and branch distribution). Understanding sympathetic reflex arcs. Practical Section Drawing diagrams, preparing reports, and solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3,25
Total hours				156

2.4 Interactive Learning Methods.

To enhance students' cognitive activity, interactive teaching methods (interactive questioning, working with a model, solving clinical and anatomical problems) are widely used in practical classes, research projects, and scientific research.

Topic of the practical lesson	Labor intensity in hours	Interactive learning	Labor intensity in hours, as a percentage of the lesson
Introduction. General osteology.	3,25	Interactive survey	15 min
Skeleton of the trunk.	3,25	Clinical and anatomical tasks	15 min
Skeleton of the upper limb.	3,25	Clinical and anatomical tasks	15 min
Skeleton of the lower limb.	3,25	Clinical and anatomical tasks	15 min
Skeleton of the head (bones of the braincase).	3,25	Clinical and anatomical tasks	15 min
Skeleton of the head (bones of the facial skull).	3,25	Clinical and anatomical tasks	15 min
Final lesson on osteology.	3,25	Clinical and anatomical tasks	15 min
General arthrology. Joints of the bones of the skull and trunk.	3,25	Interactive survey	15 min
Joints of the bones of the upper limb.	3,25	Clinical and anatomical tasks	15 min
Joints of the bones of the lower limb.	3,25	Clinical and anatomical tasks	15 min
Final lesson on arthrology.	3,25	Clinical and anatomical tasks	15 min
General myology. Muscles of the head and neck.	3,25	Interactive survey	15 min
Muscles of the trunk (chest, back, abdomen).	3,25	Clinical and anatomical tasks	15 min
Muscles of the upper limb.	3,25	Clinical and anatomical tasks	15 min
Muscles of the lower limb.	3,25	Clinical and anatomical tasks	15 min
Final lesson on myology.	3,25	Clinical and anatomical tasks	15 min
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	3,25	Clinical and anatomical tasks	15 min
Topography of organs. Pharynx, esophagus, stomach.	3,25	Working with a model	15 min
mall and large intestine, salivary glands, liver, pancreas.	3,25	Clinical and anatomical tasks	15 min
Peritoneum and its derivatives.	3,25	Clinical and anatomical tasks	15 min
Дыхательная система:	3,25	Clinical and anatomical	15 min

нос, гортань, трахея, бронхи, легкие.		tasks	
Respiratory system: nose, larynx, trachea, bronchi, lungs.	3,25	Working with a model	15 min
Urinary system.	3,25	Clinical and anatomical tasks	15 min
Male reproductive system.	3,25	Clinical and anatomical tasks	15 min
Female reproductive system.	3,25	Clinical and anatomical tasks	15 min
Vascular system. Circulatory system. Heart, pericardium.	3,25	Working with a model	15 min
Aorta. Arteries of the head and neck.	3,25	Clinical and anatomical tasks	15 min
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	3,25	Clinical and anatomical tasks	15 min
Arteries of the upper and lower limbs.	3,25	Clinical and anatomical tasks	15 min
Venous system.	3,25	Clinical and anatomical tasks	15 min
Lymphatic system. Immune system	3,25	Clinical and anatomical tasks	15 min
Endocrine glands.	3,25	Clinical and anatomical tasks	15 min
Spinal cord	3,25	Clinical and anatomical tasks	15 min
Medulla oblongata, pons, cerebellum, midbrain.	3,25	Clinical and anatomical tasks	15 min
Diencephalon, basal ganglia and white matter of the hemispheres.	3,25	Clinical and anatomical tasks	15 min
Cerebral cortex.	3,25	Clinical and anatomical tasks	15 min
Conducting pathways of the spinal cord and brain.	3,25	Clinical and anatomical tasks	15 min
Blood supply to the brain and spinal cord.	3,25	Clinical and anatomical tasks	15 min
The organ of vision.	3,25	Clinical and anatomical tasks	15 min
The organ of hearing and balance.	3,25	Clinical and anatomical tasks	15 min
The organ of smell and taste. Skin.	3,25	Clinical and anatomical tasks	15 min
Cranial nerves: 3,4,5,6,7 pairs.	3,25	Clinical and anatomical tasks	15 min
Cranial nerves: 9,10,11,12 pairs.	3,25	Clinical and anatomical tasks	15 min
Spinal nerves and their branches: cervical and	3,25	Clinical and anatomical tasks	15 min

brachial plexus.			
Thoracic nerves, lumbar plexus.	3,25	Clinical and anatomical tasks	15 min
Sacral and coccygeal plexus. Innervation of the skin.	3,25	Clinical and anatomical tasks	15 min
Parasympathetic division of the autonomic nervous system.	3,25	Clinical and anatomical tasks	15 min
Sympathetic division of the autonomic nervous system.	3,25	Clinical and anatomical tasks Testing in the Moodle system	15 min 90 мин (61,5%)

2.5 Student Knowledge Assessment Criteria

Learning outcomes are assessed in accordance with the "Regulations on the Student Learning Outcomes Assessment System of the Federal State Budgetary Educational Institution of Higher Education, Amur State Medical Academy, Ministry of Health of the Russian Federation." The basis for determining the level of knowledge, skills, and abilities are the assessment criteria of completeness and accuracy: correct, accurate answer; correct but incomplete or inaccurate answer; incorrect answer; no answer. When assigning grades, error classifications and their quality are taken into account: gross errors; similar errors; minor errors; and shortcomings. Students' success in mastering the topics of the "Anatomy" course is determined by the quality of their acquisition of knowledge, skills, and practical skills. Grades are assigned on a five-point scale: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory.

Entrance assessment. This assessment is conducted to test specific knowledge necessary for successful mastery of the course topics. It is administered by the instructor during the first lesson in the form of a written assignment covering various sections of anatomy (school biology course). The assessment is graded on a binary scale: pass/fail.

Ongoing Assessment. The initial assessment is conducted to test students' knowledge, skills, and abilities necessary for successful mastery of the lesson topic. It is administered by the instructor at the beginning of each lesson as an oral survey, including self-study questions from the course topics and a written assessment on Latin terminology. The final assessment is designed to test the knowledge, skills, and abilities acquired in the lesson. It is conducted as an interview (written assignment) or as a diagram (written assignment) based on the assessment questions. The final grade for the ongoing assessment is determined as the arithmetic mean of all activities covered in the given lesson's course curriculum.

Oral Response Assessment Criteria "5" (Excellent) – The student demonstrates a thorough and complete knowledge of the course material, avoids inaccuracies and distortions of facts when presenting, presents the material in a logical sequence, is well-versed in the material, and can provide justification for their judgments. "4" (Good) – The student has mastered the course material in its entirety, is well-versed in the material, presents the material in a logical sequence, but makes inaccuracies in their answers. "3" (Satisfactory) – The student has mastered the basic concepts of the practical lesson topic, but makes inaccuracies in their presentation of the course material, presents it incompletely and inconsistently, requires leading questions from the instructor, and has difficulty justifying their judgments. “2” (unsatisfactory) – the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and the secondary, makes mistakes in defining basic concepts, distorts their meaning, and is unable to independently present the material.

Ongoing Assessment. Initial assessment is conducted to test students' knowledge, skills, and abilities necessary for successful mastery of the lesson topic. It is conducted by the instructor at the beginning of each lesson in the form of an oral survey, including test questions from the self-study guide on the course topics and a written assessment on Latin terminology. Practical Assessment Criteria "5" (excellent) – the student has fully mastered the practical skills and abilities required for the course. "4" (good) – the student has fully mastered the practical skills and abilities required for the course, but has some inaccuracies. "3" (satisfactory) – the student has mastered only some practical skills and abilities. "2" (unsatisfactory) – the student demonstrates the practical skills and abilities with significant errors. Assessment criteria for extracurricular independent work: - the student's mastery of the educational material in the sections "student must know and understand"; - the comprehensiveness and depth of general educational concepts, knowledge, and skills on the topic covered by this independent work; - the development of universal and general professional competencies (the ability to apply theoretical knowledge in practice). - clinical and anatomical problems are solved correctly – "passed." - problems are solved incorrectly, questions are answered inaccurately – "failed." Preparing an essay: - the essay is written competently enough, the material is presented in detail, and the formatting meets requirements – "passed." - the essay is not written competently enough, the material is not presented in detail, and the formatting does not meet requirements – "failed." A student who fails to prepare a paper or receives a "fail" for it will not be allowed to take the final midterm assessment in the Anatomy course.

Catching up on outstanding work in the course.

If a student misses a class for a valid reason, they have the right to make up the missed class and receive the maximum grade allowed by the course syllabus for that class. A valid reason must be documented. If a student misses a class for an unexcused reason or receives a grade of "2" for all activities in the class, they are required to make up the missed class. The grade received for all activities is multiplied by 0.8. If a student is excused from a class at the request of the dean (for participation in sports, cultural events, or other activities), they are awarded a grade of "5" for that class, provided they submit a report on the completion of mandatory extracurricular independent work on the topic of the missed class.

Midterm Assessment Criteria. Midterm assessment (exam) is designed to assess the degree to which planned learning outcomes have been achieved upon completion of a course and allows for the evaluation of the level and quality of student mastery. Student mastery of the course is assessed on a 5-point scale: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory. "Excellent" - for the depth and completeness of mastery of the course material, which the student easily navigates, for the ability to connect theoretical and practical questions, express and justify their judgments, and present their answers competently and logically. Up to 10% of incorrect answers are allowed during testing. The practical skills and abilities required by the course syllabus have been fully mastered. "Good" - the student has fully mastered the course material, is familiar with it, and presents their answer competently, but the content and format contain some inaccuracies. During testing, the student makes up to 20% incorrect answers. Fully possesses the practical skills and abilities required by the course syllabus, but makes some inaccuracies. "Satisfactory" - the student has mastered the knowledge and understanding of the main concepts of the course material, but presents it incompletely, inconsistently, and is unable to express and justify their judgments. During testing, the student makes up to 30% incorrect answers. The student possesses only some practical skills and abilities. "Unsatisfactory" - the student has a fragmented and unsystematic knowledge of the course material, is unable to distinguish between essential and non-essential concepts, makes errors in defining concepts, distorts their meaning, presents the material in a disorderly and uncertain manner, and makes more than 30% incorrect answers during testing. The student performs practical skills and abilities with significant errors. A student can automatically qualify for an "excellent" grade if they have won a prize in a disciplinary Olympiad and have a GPA of at least 4.8 points based on their current academic performance. A student can opt out of this automatic grade and take the test with their group on a standard basis. Midterm assessment is conducted through a three-stage exam system: 1. Theoretical

Knowledge Assessment in the Moodle system (http://educ-amursma.ru/mod/quiz/view.php?id=907) The theoretical knowledge assessment in the Moodle system is designed according to the course syllabus and includes 340 questions, 60 of which are randomly selected by the student. Grading scale: 70% or more correct answers are passed, less than 70% are failed.

2. **Practical exam**. A test containing 5 questions on practical skills in demonstrating anatomical structures using visual aids and biological material. Assessment criteria: - 5 points (equivalent to an "excellent" grade) is awarded to the student if they answered all questions without any comments from the examiner; - 4 points (equivalent to a "good" grade) is awarded to the student if they answered all questions but with comments from the examiner; - 3 points (equivalent to a "satisfactory" grade) is awarded to the student if they answered 3 questions without any comments from the examiner; - 2 points (equivalent to an "unsatisfactory" grade) is awarded to the student if they failed to answer all questions. 3. Theoretical exam A test containing 4 questions on the theoretical side, demonstrating a competency-based approach to mastering anatomical material.

Assessment criteria

"Great"	A student receives this mark if they demonstrate a deep and complete mastery of the course material, present their answers clearly and logically, are able to connect theory with practice, express and justify their judgments, and formulate independent conclusions and generalizations in their responses. They have mastered all the practical skills and abilities required by the course curriculum.
"Fine"	A student receives a mark if they have fully mastered the course material, navigate the material consciously, apply their knowledge to solving practical problems, and express their answers competently, but the content and format of their answers contain some inaccuracies or are incomplete. They have mastered all the practical skills and abilities required by the program, but still make some inaccuracies.
"satisfactorily"	A student receives a "failure" if they demonstrate knowledge and understanding of the basic concepts of the educational material, but present it incompletely, inconsistently, make inaccuracies, and are unable to substantiate their judgments. They possess only some of the practical skills and abilities required by the program.
«unsatisfactory»	A student receives a grade if they have fragmented, unsystematic knowledge, are unable to distinguish between essential and unimportant matters, present material in a disorderly and uncertain manner, and are unable to apply their knowledge to solving practical problems. They perform practical skills and abilities with gross errors or make no attempt to demonstrate their theoretical knowledge and practical skills.

Assessment criteria for midterm assessment (3rd semester)

Stages	Rating on a 5-point scale	Binary scale
Test control in the Moodle system	3-5	**passed**
Complete completion of the practical part of the course	3-5	
Completion of practical skills (control of competence development)	3-5	
Test control in the Moodle system	2	**not credited**
Complete completion of the practical part of the course	2	
Completion of practical skills (control of	2	

competence development)		

2.6 Independent Student Work: In-Class and Out-of-Class.

In-Class Independent Student Work: Independent student work during class time (during practical classes) is organized by the instructor (as one of the lesson stages) and is regulated by special methodological guidelines for instructors. The purpose of this type of independent work is to consolidate knowledge on the lesson topic.

For each practical class, students have a methodological guide to guide their self-study and to promote active and focused study of the topic. These methodological guides define questions on the following points: 1) what the student should know; 2) what the student should understand; 3) what the student should be able to do (practical skill).

Extracurricular independent work of students.

Topic of the practical lesson	**Time for a student to prepare for a lesson**	**Forms of extracurricular independent work of students**	
		Compulsory and the same for all students	**At the student's choice**
Introduction. General osteology.	1,5	Working with preparations, dummies, and tablets	
Skeleton of the trunk.	1,5	Working with preparations, dummies, and tablets	
Skeleton of the upper limb.	1,5	Working with preparations, dummies, and tablets	
Skeleton of the lower limb.	1,5	Working with preparations, dummies, and tablets	
Skeleton of the head (bones of the braincase).	1,5	Working with preparations, dummies, and tablets	
Skeleton of the head (bones of the facial skull).	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Final lesson on osteology.	1,5	Working with preparations, dummies, and tablets	
General arthrology. Joints of the bones of the skull and trunk.	1,5	Working with preparations, dummies, and tablets	
Joints of the bones of the upper limb.	1,5	Working with preparations, dummies, and tablets	
Joints of the bones of the lower limb.	1,5	Working with preparations, dummies, and tablets	
Final lesson on arthrology.	1,5	Working with preparations, dummies, and tablets	
General myology. Muscles of the head and neck.	1,5	Working with preparations, dummies, and tablets	
Muscles of the trunk (chest, back, abdomen).	1,5	Working with preparations, dummies, and tablets	
Muscles of the upper limb.	1,5	Working with preparations, dummies, and tablets	
Muscles of the lower	1,5	Working with preparations,	Preparation of an abstract,

limb.		dummies, and tablets	presentation
Final lesson on myology.	1,5	Working with preparations, dummies, and tablets	
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Topography of organs. Pharynx, esophagus, stomach.	1,5	Working with preparations, dummies, and tablets	
mall and large intestine, salivary glands, liver, pancreas.	1,5	Working with preparations, dummies, and tablets	
Peritoneum and its derivatives.	1,5	Working with preparations, dummies, and tablets	
Дыхательная система: нос, гортань, трахея, бронхи, легкие.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Respiratory system: nose, larynx, trachea, bronchi, lungs.	1,5	Working with preparations, dummies, and tablets	
Urinary system.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Male reproductive system.	1,5	Working with preparations, dummies, and tablets	
Female reproductive system.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Vascular system. Circulatory system. Heart, pericardium.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Aorta. Arteries of the head and neck.	1,5	Working with preparations, dummies, and tablets	
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	1,5	Working with preparations, dummies, and tablets	
Arteries of the upper and lower limbs.	1,5	Working with preparations, dummies, and tablets	
Venous system.	1,5	Working with preparations, dummies, and tablets	
Lymphatic system. Immune system	1,5	Working with preparations, dummies, and tablets	
Endocrine glands.	1,5	Working with preparations, dummies, and tablets	
Spinal cord	1,5	Working with preparations, dummies, and tablets	
Medulla oblongata, pons, cerebellum, midbrain.	1,5	Working with preparations, dummies, and tablets	
Diencephalon, basal ganglia and white	1,5	Working with preparations, dummies, and tablets	

matter of the hemispheres.			
Cerebral cortex.	1,5	Working with preparations, dummies, and tablets	
Conducting pathways of the spinal cord and brain.	1,5	Working with preparations, dummies, and tablets	
Blood supply to the brain and spinal cord.	1,5	Working with preparations, dummies, and tablets	
The organ of vision.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
The organ of hearing and balance.	1,5	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
The organ of smell and taste. Skin.	1,5	Working with preparations, dummies, and tablets	
Cranial nerves: 3,4,5,6,7 pairs.	1,5	Working with preparations, dummies, and tablets	
Cranial nerves: 9,10,11,12 pairs.	1,5	Working with preparations, dummies, and tablets	
Spinal nerves and their branches: cervical and brachial plexus.	1,5	Working with preparations, dummies, and tablets	
Thoracic nerves, lumbar plexus.	1,5	Working with preparations, dummies, and tablets	
Sacral and coccygeal plexus. Innervation of the skin.	1,5	Working with preparations, dummies, and tablets	
Parasympathetic division of the autonomic nervous system.	1,5	Working with preparations, dummies, and tablets	
Sympathetic division of the autonomic nervous system.	1,5	Working with preparations, dummies, and tablets	
72			36
108			

2.7 Student Research (Project) Work

Student research (project) work is a mandatory part of the course and is aimed at comprehensively developing students' universal and general professional competencies. Research work involves studying specialized literature and other scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge, participating in scientific research, etc. Students determine the topic of research independently or in consultation with the instructor.

List of recommended research topics:

1. Study of specialized literature to develop in-depth knowledge of developmental anomalies of organs and systems
2. Mastering the anthropometric technique "Morphological Passport" with a descriptive section to develop clinical skills
3. Dissection of organs and systems with a description of the protocol
4. Preparation of a museum specimen with its characteristics

Student research (project) work assessment criteria:
- the research findings in the report are presented in detail, the specialized literature is well-researched, and scientific and technical information on the achievements of domestic and international science and technology in the relevant field is studied – "passed."
- the research findings in the report are not presented accurately, the specialized literature is poorly researched, and scientific and technical information on the achievements of domestic and international science and technology in the relevant field is studied – "failed."

III. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

3.1 Primary literature

Anatomy	**BASIC LITERATURE:**	
	1. Human anatomy: textbook / M.G. Prives, N.K. Lysenkov, V.I. Bushnovich. 12th ed., revised and enlarged. – St. Petersburg: Publishing house of St. Petersburg MAPO, 2009, 2010. – 720 p.	686
	2. Human anatomy: textbook/edited by M.R. Sapin. In 2 volumes. - M.: GEOTAR-Media, 2015. - Vol. 1. - 456 p.: ill., Vol. 2. - 528 p.: ill.http://www.studmedlib.ru/ru/book/ISBN9785970434833.html	
	3. Human anatomy: textbook/edited by M.R. Sapin. In 2 volumes. - M.: GEOTAR-Media, 2015. - Vol. 2. - 528 p.: ill.http://www.studmedlib.ru/ru/book/ISBN9785970443840.html	
	3. Human anatomy: illustrated textbook. In 3 volumes/edited by L.L. Kolesnikov. - Vol. 3. Nervous system. Sense organs. - Moscow: GEOTAR-Media, 2015. - 216 p.: ill.http://www.studmedlib.ru/ru/book/ISBN9785970428863.htm	

3.2 Additional literature

Anatomy	**ADDITIONAL REFERENCES:**	
	1. Gaivoronsky I.V. Normal human anatomy: textbook. In 2 volumes. - St. Petersburg: SpetsLit, 2011.-V.1.-559 p., V.2.-423 p.	48
	2. Panasenko N.N. Nomina anatomica: textbook. Dictionary of anatomical terms. – St. Petersburg: OOO Foliant, 2006. – 128 p.	121
	3. Lysova N.F. Human anatomy and physiology: textbook. - Novosibirsk ARTA.-2011.-271 p.	30
	4. Khamutov A.E., Kulba S.N. Anatomy of the central nervous system. - Rostov n / Don: "PHOENIX", 2010. - 315 p.: ill.	10
	5. Krstic G.V. Atlas of human microscopic anatomy: textbook/edited by R.P. Samusev. - M.: OOO Izd-vo Onyx, 2010.-608 p.: ill.	10
	6. Sapin M.R., Nikityuk D.B., Klochkova S.V. Anatomy and topography of the nervous system: textbook.-M.: GEOTAR-Media, 2016.-196 p.: ill. http://www.studmedlib.ru/ru/book/ISBN9785970435045.html	
	7. Bilich G.L., Kryzhanovsky V.A. Human anatomy. Atlas: textbook. In 3 volumes. V. 1. Musculoskeletal system. - M .: GEOTAR - Media, 2013.--800 p.: ill. http://www.studmedlib.ru/ru/book/ISBN9785970426074.html	
	8. Bilich G.L., Kryzhanovsky V.A. Human anatomy. Atlas: textbook. In 3 volumes. Volume 2. Internal organs. - M .: GEOTAR-Media, 2013 .-- 824 p.: ill. http://www.studmedlib.ru/ru/book/ISBN9785970425428.html	
	9. Bilich G.L., Kryzhanovsky V.A. Human anatomy. Atlas: textbook.	

	In 3 volumes. Volume 3.-M.: GEOTAR-Media, 2013. - 792 p.: ill. http://www.studmedlib.ru/ru/book/ISBN9785970425435.html	

3.3 Educational and methodological support for the discipline, prepared by the department staff

1. "Projection Lines, Areas, and Lines on the Human Body" by V.I. Labzin, A.A. Rodionov, E.V. Pushkarev, 2005, approved by the Educational and Methodological Association, recommended for students of medical universities in Russia.
2. "Osteology." A textbook for students majoring in general medicine and pediatrics. by S.S. Seliverstov, 2020 (approved by the Educational and Methodological Association, 2005, recommended for students of medical universities in Russia).
3. "Arthrology." A methodological manual for independent work by students of the Medical Academy of the General Medicine and Pediatrics Faculties. by S.S. Seliverstov, 2020 (approved by the Educational and Methodological Association, 2005, recommended for students of medical universities in Russia).
4. "Myology." A methodological guide for students of the general and pediatric faculties of medical universities. Seliverstov S.S., 2020 (certified by the UMO 2005, recommended for students of medical universities in Russia).
5. "Morphological and Functional Patterns of the Digestive System Structure," Seliverstov S.S., 2020 (certified by the 2005 Educational Methodological Association, recommended for students of medical schools in Russia).
6. "Fundamentals of the Cardiovascular System Structure," a teaching aid for students of the General Medicine and Pediatrics faculties. Seliverstov S.S., 2018 (certified by the 2008 Educational Methodological Association, recommended for students of medical schools in Russia).
7. "Anatomical and Clinical Patterns of the Central Nervous System Structure," a teaching aid for second-year students of the Medical Academy. Rodionov A.A., Seliverstov S.S., 2019 (certified by the 2006 Educational Methodological Association, recommended for students of medical schools in Russia).
8. "The Peripheral Nervous System in Anatomical and Clinical Light," a teaching aid for students of the Medical Academy. Seliverstov S.S., Rodionov A.A., Ambroseva N.P., 2020 (certified by the UMO 2008, the aid is recommended for students of medical universities in Russia).

Electronic and Digital Technologies:

Online course in "Anatomy" at the Electronic and Informational System of the Federal State Budgetary Educational Institution of Higher Education, Amur State Medical Academy
Access mode for semester 1: https://educ-amursma.ru/course/view.php?id=646
Access mode for semester 2: https://educ-amursma.ru/course/view.php?id=71
Access mode for semester 3: https://educ-amursma.ru/course/view.php?id=641

Characteristics of modules in the electronic information and educational course

Educational	Controlling
Theoretical (lecture) material	Methodological recommendations for students on independent extracurricular work.
Methodological recommendations for students on practical classes. Methodological recommendations for practical classes.	Final knowledge assessment tests.

3.4 Equipment used for the educational process

1. Anatomical museum – 1
2. Mortuary storage room – 1
3. Anatomical models and tablets – 165
4. Spreadsheet fund – 210
5. Multimedia projector – 1.

6. Video complex – 1.
7. Computers – 7.
8. Negatoscopes – 5.
9. Electrified stands:
10. - X-ray display cases – 5;
11. Educational films – 14.
12. Educational films on DVD – 25.
13. Filmstrips and slides on sections of anatomy – 540.
14. Autopsy tables – 12.

3.5. Professional databases, information and reference systems, electronic educational resources.

№	Resource name	Resource Description	Access	Resource address
Electronic library systems				
1.	"Student Consultant. Electronic Library of Medical University"	For students and faculty of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids, and periodicals.	library, individual access	http: //www .studmedlib.ru/
2.	"Doctor's Consultant" Electronic Medical Library.	The materials in the library were developed by leading Russian specialists based on modern scientific knowledge (evidence-based medicine). The information was prepared taking into account the position of the scientific and practical medical community (global, European, and Russian) in the relevant specialty. All materials have undergone mandatory independent peer review.	library, individual access	http://www.rosmedlib.ru/cgi-bin/mb4x
3.	PubMed	A free search system for MedLine, the largest medical bibliographic database. It documents medical and biological articles from specialized literature and provides links to full-text articles.	library, individual access	https://pubmed.ncbi.nlm.nih.gov/
4.	Oxford Medicine Online	Oxford Press's collection of medical publications brings together over 350 titles into a single, cross-searchable resource. Publications include The Oxford Handbook of Clinical Medicine and The Oxford Textbook of Medicine, the electronic versions of which are continually updated.	library, individual access	http://www.oxfordmedicine.com
5.	Knowledge base on human biology	Reference information on physiology, cell biology, genetics, biochemistry, immunology, and pathology. (Source: Institute of Molecular Genetics, Russian Academy of Sciences.)	library, individual access	http://humbio.ru/
6.	Medical online library	Free reference books, encyclopedias, books, monographs, essays, English-language literature, tests.	library, individual access	http://med-lib.ru/
Information systems				
7.	Russian Medical	A professional online resource. Purpose: to facilitate the effective professional activities	library, individual	http://www.rmass.ru/

	Association	of medical personnel. Contains the charter, personnel, structure, membership rules, and information about the Russian Medical Union.	access	
8.	Web medicine	The website provides a directory of professional medical resources, including links to the most authoritative medical websites, journals, societies, as well as useful documents and programs. It is intended for physicians, students, and staff of medical universities and research institutions	library, individual access	http: //webmed.irkutsk.ru/
Databases				
9.	World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications, and much more.	library, individual access	http://www.who.int/ru/
10.	Ministry of Science and Higher Education of the Russian Federation	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	library, individual access	https://www.minobrnauki.gov.ru/
11.	Ministry of Education of the Russian Federation	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	library, individual access	https://edu.gov.ru /
12.	Federal Portal "Russian Education"	A single point of access to educational resources. This portal provides access to textbooks on all areas of medicine and healthcare.	library, individual access	http: //www.edu.ru/ http://window.edu.ru/catalog/?prubr=2.2.81.1
Библиографические базы данных				
13.	Database "Russian Medicine"	Created at the Central Scientific and Methodological Library, it covers the entire collection since 1988. The database contains bibliographic descriptions of articles from Russian journals and collections, dissertations and their abstracts, as well as Russian and foreign books, institute proceedings, conference proceedings, and more. Thematically, the database covers all areas of medicine and related fields of biology, biophysics, biochemistry, psychology, and more.	library, individual access	http://www.scsml.rssi.ru/
14.	eLIBRARY.RU	A Russian information portal in science, technology, medicine, and education, containing abstracts and full texts of over 13 million scientific articles and publications. The eLIBRARY.RU platform offers electronic versions of over 2,000 Russian scientific and technical journals, including over 1,000 open-access journals.	library, individual access	http://elibrary.ru/defaultx.asp

15.	Portal Electronic Library of Dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	library, individual access	http://diss.rsl.ru/?menu=disscatalog/
16	Medline.ru	Medical and biological portal for specialists. Biomedical journal. Last updated February 7, 2021.	library, individual access	http://www.medline.ru

3.6. Licensed and freely distributed software used in the educational process.

№	List of software (commercial software products)	Details of supporting documents
1	operating system MS Windows 7 Pro	License number 48381779
2	operating system MS Windows 10 Pro, MS Office	CONTRACT №142 A 25.12.2019
3	MS Office	License number: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4	Kaspersky Endpoint Security	Agreement № 977 /20 24.12.2020
5	1C: PROF University	LICENSE AGREEMENT № 2191 15.10.2020
6	1C: PROF Library	LICENSE AGREEMENT № 2281 11.11.2020

List of freely distributed software

№	List of freely distributed software	Links to the license agreement
1	Google Chrome	Freely distributed Distribution Terms: https://play.google.com/about/play-terms/index.html
2	Yandex Browser	Freely distributed License Agreement for the use of Yandex Browser software https://yandex.ru/legal/browser_agreement/
3	Dr.Web CureIt!	Freely distributed License Agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4.	OpenOffice	Freely distributed License Agreement: http://www.gnu.org/copyleft/lesser.html
5.	LibreOffice	Freely distributed License Agreement: https://ru.libreoffice.org/about-us/license/

3.7. Internet Resources

- Amur State Medical Academy Library: https://amursma.ru/obuchenie/biblioteki/biblioteka-amurskoy-gma/
- Student Consultant Electronic Library System, http://www.studmedlib.ru//ru/index.html

- University Library Online Electronic Library System, http:||www|biblioclub|ru,

- Amur State Medical Academy Distance Learning Center (distance learning, assessment)

http://educ-amursma.ru/mod/quiz/view.php?id=907

Entrance assessment tasks
1. List the parts of the skeleton (answer scheme: skull, trunk bones, upper limb bones, lower limb bones)
2. List the large joints of the upper and lower limbs (answer scheme: shoulder, elbow, wrist, hip, knee, ankle)
3. List the parts of the digestive tract from the oral cavity to the anus (answer scheme: mouth, pharynx, esophagus, stomach, small intestine, large intestine, anus)
4. Designate the beginning and end of the systemic and pulmonary circulations (answer scheme: systemic circulation from the left ventricle to the right atrium, pulmonary circulation from the right ventricle to the left Atrium)

Assessment criteria: If the student's answer lists everything as in the answer scheme, it is passed; if even one item is missing, it is not passed.

IV. ASSESSMENT TOOLS FUND
4.1. Current (entrance, initial, exit) and final assessment tasks

4.1.2. Final assessment tasks (with sample answers)
Access mode: (http://educ-amursma.ru/mod/quiz/view.php?id=907)
Total number of tests – 100.

001. Bones of the skull that contain an air cavity:
a) palatine bone;
b) sphenoid bone;
c) parietal bone;
d) occipital bone.

002. Canal passing through the petrous temporal bone?
a) optic canal;
b) carotid canal;
c) condylar canal;
d) hypoglossal canal.

003. Which opening is located at the bottom of the middle cranial fossa?
a) – external carotid foramen;
b) – jugular foramen;
c) – oval foramen;
d) – awl-mastoid foramen.

Answers
001 – b
002 – b
003 – c

4.1.3. Final Assessment Test Assignments (with Answer Samples)
The test assignments are located in the Moodle system.
Access mode for semester 3: (http://educ-amursma.ru/mod/quiz/view.php?id=907) Total number of tests - 340.

1. the vertebra has a process on the posterior surface
1) condylar

2) coronoid
3) spinous
4) pterygoid
2. the vascular groove passes on the ribs
1) on the inner surface of the rib
2) on the superior border of the rib
3) on the outer surface of the rib
4) on the anterior end of the rib
3. anatomical structures are located at the proximal end of the humerus
1) humeral condyle
2) ulnar groove
3) lateral epicondyle
4) anatomical Neck
4. The carpal bone is located in its proximal row
1) scaphoid
2) capitate
3) hamate
4) medial cuneiform
5. Anatomical structure located at the proximal end of the femur
1) medial condyle
2) intercondylar fossa
3) head
4) lateral epicondyle
6. The medial malleolus is located on
1) fibula
2) talus
3) tibia
4) calcaneus
7. Parts of the frontal bone
1) cribriform plate
2) orbital parts
3) body
4) frontal Processes
8. Process of the Maxilla
1) Zygomatic
2) Palatine
3) Temporal
4) Pterygoid
9. Anatomical Structure Present in the Walls of the Anterior Cranial Fossa
1) Foramen Cecum
2) Foramen Lacera
3) Foramen Rotundum
4) Fossa of the Lacrimal Sac
10. Cavities Communicating Through the Foramen Rotundum
1) Nasal Cavity
2) Infratemporal Fossa
3) Pterygopalatine Fossa
4) Orbit

Answer Standards
1-3 3-4 5-3 7-2 9-1
2-1 4-1 6-3 8-1 10-3

4.2. Situational tasks for final assessment (with sample answers)

1. A patient was admitted to the clinic complaining of impaired
binocular vision. Examination revealed a medial (nasal) deviation of the left eyeball.
Question: What is the name of this condition and what causes it?
Answer: Convergent strabismus due to denervation (atony) of the left lateral rectus muscle.
2. During surgery for purulent otitis media, the surgical field was flooded with gushing arterial blood.
Question: Which wall of the tympanic cavity and which vessel were accidentally damaged?
Answer: Anterior wall of the tympanic cavity, internal carotid artery.
3. The patient can pronounce words, responds to sounds, hears his own and others' speech, but does not understand it.
Question: Where is the lesion located and what is the name of this condition?
Answer: Posterior part of the superior temporal gyrus, sensory aphasia.

4.3. List of practical skills that a student should possess after mastering the discipline

Osteology

1. Parts of the entire skeleton and parts of the skeleton of the upper limb, glenoid cavity of the scapula, scaphoid bone of the carpus
2. Parts of the entire skeleton and parts of the skeleton of the upper limb, olecranon process
3. Parts of the entire skeleton and parts of the skeleton of the upper limb, coracoid process, lunate bone of the carpus
4. Parts of the entire skeleton and parts of the skeleton of the upper limb, radius and ulna, trapezoid bones of the carpus
5. Parts of the entire skeleton and parts of the skeleton of the upper limb, supraspinous fossa of the scapula, trochlea of the humerus
6. Parts of the entire skeleton and parts of the skeleton of the upper limb, capitate bone
7. Parts of the entire skeleton and parts of the skeleton of the upper limb, humeral process of the scapula, scaphoid bone
8. Parts of the entire skeleton and parts lower limb skeleton, ankle, greater and lesser trochanters
9. Carpal bones
10. Tarsal bones
11. Parts of the entire skeleton and parts of the skeleton of the lower limb, tarsal bones
12. Parts of the entire skeleton and parts of the skeleton of the lower limb, names of its bones, ankle
13. Parts of the entire skeleton and parts of the skeleton of the lower limb, tarsal navicular bone
14. Sections of the spine, processes of the vertebrae, first cervical vertebra
15. Sections of the spine, lordosis, kyphosis, intervertebral foramina, intervertebral discs
16. Sections of the spine, facet joints, second cervical vertebra
17. Rib cage, true, false, and flaccid ribs
18. Rib cage, parts of the sternum
19. The pelvis as a whole, its parts, pelvic bones, ischial tuberosity, symphysis
20. The pelvis as a whole, its parts, obturator foramen, acetabulum
21. The pelvis in The pelvis as a whole, its parts, the anterior superior iliac spine, the acetabulum
22. The pelvis as a whole, its parts, the promontory, the arcuate line
23. The pelvis as a whole, its parts, the sacrum, the pelvic openings of the sacrum, the coccyx
24. Parts of the skull, the openings of the external base of the skull
25. The pterygopalatine fossa, its five openings
26. The pterygopalatine fossa, its communication with the middle cranial fossa
27. The pterygopalatine fossa, its communication with the orbit
28. Parts of the skull, the sella turcica, its parts
29. Parts of the skull, openings of the internal base of the skull
30. The orbit and its openings
31. The nasal cavity, its communications through the openings
32. Paranasal sinuses
33. The maxilla, its processes, the hard palate, the maxillary cavity

34. The mandible, its parts, the mandibular canal, the coronoid process
35. The mandible, its parts, the mandibular canal, the condylar process
36. The temporal bone, its parts, the carotid canal, the styloid process
37. The temporal bone, its parts, the facial canal, the mastoid process
38. The temporal bone, its parts, the musculotubular canal, the mastoid process, the styloid process
39. The sphenoid bone, its parts, the pterygoid processes
40. Sphenoid - the sphenoid bone, its parts, the sella turcica
41. Sphenoid - the sphenoid bone, its parts, and the sinus
42. Sphenoid - the sphenoid bone, its parts, the optic canal
43. Sphenoid - the sphenoid bone, its parts, the foramen spinosum
44. Sphenoid - the sphenoid bone, its parts, the foramen rotundum
45. Sphenoid - the sphenoid bone, its parts, the foramen ovale
46. Sphenoid - the sphenoid bone, its parts, the optic chiasm groove

Arthrology

1. Continuous cartilaginous joints (show on skeleton locations, Latin names)
2. Continuous connective tissue joints (show on skeleton locations, Latin names)
3. Continuous bony joints (show on skeleton locations, Latin names)
4. Discontinuous synovial joints (show on skeleton locations, Latin names)
5. Half joints (show on skeleton locations, Latin names)
6. Ball-and-socket joints (show on skeleton locations, Latin name)
7. Plane joints (show on skeleton locations, Latin name)
8. Saddle joints (show on skeleton locations, Latin name)
9. Elliptical joints (show on skeleton locations, Latin name)
10. Block joints (show on skeleton locations, Latin name)
11. Cylindrical joints (show on Skeleton locations, Latin names)
12. Condylar joints (show on skeleton locations, Latin name)
13. Multiaxial joints (show on skeleton locations, Latin name)
14. Biaxial joints (show on skeleton locations, Latin name)
15. Uniaxial joints (show on skeleton locations, Latin name)
16. Combined joints (show on skeleton locations, Latin name)
17. Complex joints (show on skeleton locations, Latin name)
18. Simple joints (show on skeleton locations, Latin names)
19. Compound joints (show on skeleton locations, Latin names)
20. Joints of the spine (show on skeleton locations, Latin names)
21. Joints of the ribs with the spine (show on skeleton locations, Latin names)
22. Joints between the occipital bone and the first and second Cervical vertebrae (show locations on the skeleton, Latin names)
23. Joints of the upper limb (names, shape, axes of motion)
24. Temporomandibular joint (name, shape, axes of motion)
25. Joints of the lower limb (names, shape, axes of motion)

Chopart joint, bifurcated ligament

27. Lisfranc joint
28. Arches of the foot, longitudinal ligament of the plantar ligament
29. Types of spinal joints (location, names according to the classification of joints)
30. Distances for measuring external dimensions of the pelvis (interspinous, intercrestal, intertrochanteric, external anatomical conjugate (show measurement points)

Myology

1. Masticatory muscles (names, function)
2. Facial muscles (names, function)
3. Epicranial muscle, parts (names, function)
4. Neck muscles: platysma, scalene, sternocleidomastoid (names, function)
5. Suprahyoid muscles: digastric, mylohyoid (names, function)
6. Infrahyoid muscles: sternohyoid, omohyoid, Sternothyroid (names, function)

7. Triangles of the neck
8. Carotid triangle
9. N.I. Pirogov's triangle
10. Trapezius, latissimus dorsi, rhomboid muscles (names, function)
11. Iliocostalis lumborum, thoracic, and longissimus muscles (names, function)
12. Pectoralis major and minor, serratus anterior, external and internal intercostal muscles (names, function)
13. The diaphragm, its parts, openings, functions of the diaphragm
14. The axilla, walls, openings
15. The rectus abdominis muscle, external and internal oblique muscles, transverse muscle (names, function)
16. The inguinal canal, external and internal rings, walls of the canal, contents in men and women
17. The perineum, parts, openings, muscles (names, function)
18. The deltoid, supraspinatus, infraspinatus, teres, subscapularis muscles (names, functions)
19. Muscles of the anterior surface of the arm (names, functions)
20. Muscles of the back of the arm, the antecubital muscle (names, functions)
21. Muscles of the anterior surface of the forearm (names, functions)
22. Muscles of the back of the forearm (names, functions)
23. Muscles of the hand, muscle groups (names, functions) canal Wrists
24. Iliopsoas, iliacus, lumbar major, quadratus lumborum (names, functions)
25. Gluteus maximus, gluteus medius, gluteus minimus, tensor fasciae latae, piriformis muscles (names, functions)
26. Femoral tunnel
27. Adductor tunnel
28. Popliteal tunnel
29. Anterior thigh muscles (names, functions)
30. Medial thigh muscles (names, functions)
31. Posterior thigh muscles (names, functions)
32. Anterior leg muscles (names, functions)
33. Posterior leg muscles (names, functions)
34. Lateral leg muscles (names, functions)
35. Dorsal foot muscles (names, functions)
36. Sole of the foot muscles (names, functions)

Digestive system

1. Walls of the oral cavity
2. Dentition of permanent teeth, names of tooth types
3. Major salivary glands, names, where the ducts open
4. Pharynx, walls
5. Epiglottis, function
6. Pharynx, its parts, wall layers
7. Esophagus, parts, constrictions, wall layers
8. Stomach, anatomical parts, wall layers, function of the stomach
9. Duodenum, wall layers, parts, function
10. Jejunum and ileum, wall layers, functions
11. Ileocaecal (ileocecal) angle, parts, functions
12. Large intestine, its sections, wall layers, functions
13. Liver, its lobes, main functions of the liver
14. Falciform, coronary, and round ligaments of the liver
15. Gallbladder, common bile duct, functions
16. Extrahepatic Bile ducts
17. Porta hepatis, elements of the porta hepatis
18. Pancreas, parts, functions of the gland
19. Ampulla of Vater, ducts opening through the ampulla of Vater

20. Greater omentum, number of layers of peritoneum, function of the omentum
21. Lesser omentum, its ligaments, vessels and ducts located in it
22. Omental foramen, sinus orifice, walls
23. Omental bursa, its walls
24. Mesentery of the small intestine, function
25. Mesentery of the transverse colon, function
Douglas' pouch, its clinical significance
27. Lines and areas on the anterior abdominal wall

Respiratory system

1. Nasal cavity, nasal turbinates, nasal passages, functions
2. Paranasal sinuses, their communications with the nasal passages, functions
3. Choanae, nasopharynx, opening of the Eustachian tube
4. Cartilages of the larynx
5. Larynx, parts, glottis, functions of the larynx
6. Larynx, parts, epiglottis, functions
7. Trachea, main, lobar bronchi, layers of the wall
8. Segments of the upper lobe of the right lung
9. Segments of the middle lobe of the right lung
10. Segments of the lower lobe of the right lung
11. Segments of the upper lobe of the left lung
12. Segments of the lower lobe of the left lung
13. Lungs, lobes of the right and left lungs
14. The lung, its parts and Surfaces, structure of the hilum (roots) of the right and left lungs
15. Mediastinum, its parts
16. Superior mediastinum, organs located within it
17. Inferior anterior mediastinum, organs located within it
18. Lower middle mediastinum, organs located within it
19. Inferior posterior mediastinum, organs located within it
20. Horizontal lines on the anterior chest wall
21. Vertical lines on the anterior chest wall and the lower borders of the lungs along these lines
22. Vertical lines on the lateral chest wall and the lower borders of the lungs along these lines
23. Chest line, showing the boundary between the thoracic and abdominal cavities
24. Upper border of the cupula of the lungs

Urinogenital system

1. The kidneys, their parts, surfaces, and functions of the kidney
2. The kidneys, elements of the hilum, functions of the kidney
3. The kidneys, cortex and medulla, pyramids, and renal sinus
4. The excretory tree of the kidney and its constituent elements
5. Minor and major calyces, renal pelvis, ureter, and wall layers
6. The renal artery, vein, and ureter, identifying the right and left kidneys using them
7. Elements of the renal pedicle, identifying the right or left kidney
8. The urinary bladder, its parts, openings of the ureters
9. The urinary bladder, its parts, opening of the urethra
10. The male urethra, its parts, sites of constriction
11. The testicle, three names, its parts, and functions
12. The testicle, epididymis, names and functions
13. The vas deferens, its parts
14. The prostate gland, name, functions, and location Location
15. Scrotum, membranes, function
16. External male genitalia, names, parts, functions
17. Internal male genitalia, names, parts, functions
18. Uterus: three names, parts, function
19. Uterus: three names, membranes of the uterine wall, its function

20. Fallopian tube: parts, layers of the wall, function
21. Broad and round ligaments of the uterus
22. External female genitalia, names, functions
23. Internal female genitalia, names, functions
24. Perineum: two parts, openings, function
25. Urogenital diaphragm: name, openings, muscles
26. Pelvic diaphragm: name, muscles

Heart

1. Heart, name, parts, surfaces, function
2. Heart, heart chambers, valves, functions of the heart valves
3. Heart, layers and membranes
4. Pericardium, epicardium, endocardium
5. Heart, sites of exit of vessels from the heart, their names
6. Heart, sites of entry of vessels into the heart, their names
7. Heart, name and origin of arteries supplying blood to the myocardium
8. Coronary arteries, origin, function
9. Mitral valve, its Latin name, parts, function
10. Tricuspid valve, its Latin name, parts, function
11. Aortic semilunar valve, names of cusps, function
12. Pulmonary semilunar valve, names of cusps, function
13. Right atrium, vessels entering it
14. Heart, coronary sinus, Latin name, place of entry into the heart
15. Vessels of the cardiac circulation
16. Left Atrium, vessels draining into the left atrium
17. Left ventricle of the heart, name of the vessel leaving the left ventricle
18. Right ventricle of the heart, name of the vessel leaving the right ventricle
19. Pericardial cavity, its walls
20. Projection point of the apex of the heart on the anterior chest wall
21. Projection of the base of the heart on the anterior chest wall
22. Projection of the right border of the heart on the anterior chest wall
23. Projection of the left border of the heart on the anterior chest wall
24. Projection of the inferior border of the heart on the anterior chest wall
25. Projection of the mitral valve of the heart on the anterior chest wall and the place where it can be heard
26. Projection of the tricuspid valve of the heart on the anterior chest wall and the place where it can be heard
27. Projection of the aortic valve of the heart on the anterior chest wall and the place where it can be heard
28. Projection of the pulmonary valve of the heart on anterior chest wall and the place where it is auscultated

Arteries

1. External carotid arteries
2. Internal carotid arteries
3. Circle of Willis
4. Common carotid arteries
5. Pulmonary trunk
6. Brachiocephalic arterial trunk
7. Subclavian arteries
8. Axillary artery
9. Brachial artery
10. Radial artery
11. Ulnar artery
12. Superficial palmar arterial arch

13. Aortic arch
14. Thoracic aorta
15. Abdominal aorta
16. Aortic bifurcation and common iliac arteries
17. External and internal iliac arteries
18. Femoral artery
19. Popliteal artery
20. Anterior tibial artery
21. Posterior tibial artery
22. Lateral and medial arteries of the sole of the foot

Veins

1. Internal jugular vein
2. Superior sagittal sinus of the dura mater
3. Sigmoid sinus of the dura mater
4. Brachiocephalic vein
5. Subclavian vein
6. Superior vena cava
7. Coronary venous sinus of the heart
8. Pulmonary veins
9. Azygos vein
10. Hemiazygos vein
11. Hepatic portal vein
12. Inferior vena cava
13. Common iliac veins
14. Internal and external iliac veins
15. Femoral vein
16. Popliteal vein
17. Great occult saphenous vein of the thigh
18. Anterior and posterior tibial veins

Lymphatic and immune system

1. Thoracic duct
2. Right Lymphatic duct
3. Right and left lumbar lymphatic trunks
4. Right and left jugular lymphatic trunks
5. Right and left subclavian lymphatic trunks
6. Intestinal lymphatic trunks
7. Thymus gland
8. Spleen
9. Axillary lymph nodes
10. Inguinal lymph nodes
11. Mesenteric lymph nodes
12. Mammary lymph nodes

Endocrine system

1. Pituitary gland
2. Pineal gland
3. Thyroid gland
4. Parathyroid glands
5. Adrenal glands
6. Ovaries
7. Testes

Central nervous system

1. Spinal cord, anterior roots
2. Spinal cord, posterior roots

3. Spinal cord, spinal ganglion
4. Spinal cord, spinal nerve
5. Medulla oblongata
6. Pons
7. Cerebellum and its parts
8. Rhombencephalon
9. Hindbrain
10. Midbrain and its parts
11. Diencephalon and its parts
12. Basal ganglia
13. Corpus callosum
14. Telencephalon, frontal lobe, speech articulation center
15. Telencephalon, temporal lobe, auditory center
16. Telencephalon, parietal lobe, praxic center
17. Telencephalon, occipital lobe, visual center
18. Cortical end of the motor analyzer
19. Cortical end of the cutaneous analyzer
20. Cortical end of the auditory analyzer
21. Cortical end Vestibular analyzer
22. Parahippocompal gyrus, uncus
23. Cortical end of the olfactory and gustatory analyzer
24. Optic thalamus
25. Quadrigemina
26. Center of the motor analyzer of speech (Broca's)
27. Center of the auditory analyzer of oral speech (Wernicke's)
28. Writing center
29. Reading center
30. Fourth ventricle of the brain
31. Third ventricle of the brain
32. Sylvian aqueduct
33. Lateral ventricles of the brain
34. Dura mater

Cranial nerves

1. Olfactory and optic nerves
2. Oculomotor nerve
3. Trochlear nerve
4. Trigeminal nerve
5. Abducens nerve
6. Facial nerve
7. Vestibule-cochlear nerve
8. Glossopharyngeal nerve
9. Vagus nerve
10. Accessory nerve
11. Hypoglossal nerve

Peripheral nerves

1. Phrenic nerve
2. Ulnar nerve
3. Medial cutaneous nerves of the arm and forearm
4. Median nerve
5. Musculocutaneous nerve
6. Radial nerve
7. Axillary nerve
8. Intercostal nerves

9. Iliohypogastric nerve
10. Ilioinguinal nerve
11. Genitofemoral nerve
12. Femoral nerve
13. Saphenous nerve
14. Obturator nerve
15. Sciatic nerve
16. Common peroneal nerve
17. Superficial peroneal nerve
18. Deep peroneal nerve
19. Tibial nerve
20. Medial and lateral plantar nerves
21. Sympathetic trunk

4.4. List of Exam Questions

I. QUESTIONS ON PHILOSOPHY IN ANATOMY

1. Fundamental methodological principles of anatomy (the idea of dialectical development, the integrity of the organism, and the interrelationships of its parts).
2. The concept of normal, variant, anomalies, and developmental malformations. Examples. Unity of form and content using anatomy as an example.
3. The concept of ontogenesis and phylogenesis. Manifestation of the law of negation of negation in the process of ontogenesis and phylogenesis. Age-based division of ontogenesis (critical periods of growth, the concept of spurt). Signs of fetal maturity.
4. Symmetry and asymmetry, the unity of form and function in the human body. The dialectic of their relationships.
5. The concept of the category of part and whole in anatomy, the integrity of the organism (subordination, correlation, and coordination as a form of interaction between parts and the whole environment).

II. QUESTIONS TOPOGRAPHIES

6. The thorax as a whole: three thoracic shapes. Lines and projection of organs onto the chest walls. Peculiarities in newborns and children.
7. Regions and lines of the human body, their topography, and their clinical significance.
8. External structure of the heart. The heart in X-ray image. Internal structure of the atria and ventricles. Skeletotoly and syntopy of the heart. Peculiarities in newborns and children.
9. Structure of the anterior abdominal wall and its weak points. Regions and lines of the abdomen. Projection of organs onto the anterior abdominal wall. Peculiarities in newborns and children.

III. GENERAL ISSUES AND HISTORY OF ANATOMY

10. The subject and content of anatomy. Its place among biological disciplines. Its importance for the study of clinical disciplines and medical practice. Modern methodology for studying the human body.
11. Modern principles and methods of anatomical research.
12. Anatomy and medicine. The importance of anatomical knowledge for understanding the mechanisms of diseases, their prevention, diagnosis, and treatment. The relationship between parts and the whole.
13. Anatomy and medicine of ancient Greece and Rome, their representatives (Aristotle, Galen).
14. Anatomy of the Renaissance. Leonardo da Viejo as an anatomist; Andreas Vesalius – a revolutionary in descriptive anatomy.
15. The first Russian anatomists of the 19th century (A. P. Protasov, M. I. Shein, K. I. Shchepin, E. O. Muin, I. M. Moksimovich-Ambodik) and the 20th century (P. A. Zagorsky, I. V. Buyalsky, D. N. Zernov).
16. N. I. Pirogov and the essence of his discoveries in human anatomy; the methods he proposed for studying the topography of organs, their significance for anatomy and practical medicine.
17. P. F. Lesgaft as a representative of the functional direction in anatomy and the significance of his works in the theory of the subject and development of physical education.

18. Anatomy of the modern period V. P. Vorobyov, V. N. Gonkov, G. M. Iosifov, D. A. Zhdanov, V. V. Kupriyanov, M. G. Prives, M. R. Sapin, D. M. Golub, R. D. Sinelnikov.
19. The concept of individual variability: the norm, variations, anomalies, and deformities. Body types. Peculiarities in newborns and children.
20. The initial stages of human embryogenesis. The theory of germ layers. Signs of fetal maturity.
V. ANATOMY OF THE OPTOMOTOR SYSTEM.
21. Bone as an organ: its development, structure, and growth. Bone classification.
22. Vertebrae: their structure in different parts of the spine, variations and anomalies, connections between vertebrae. Occipitoaxial joint, joint movements.
23. The spinal column as a whole: structure, formation of its curves. Movements. Muscles that produce movements of the spinal column. Features in newborns and children.
24. Ribs and sternum: their development, structure, variations, and anomalies. Connections of the ribs with the vertebrae and sternum. The thorax as a whole, its individual and typological features. Rib movements, the muscles that produce these movements, their blood supply and innervation. Features in newborns and children.
25. Development of the skull during ontogenesis. Individual, age-related, and gender-specific characteristics of the skull. Peculiarities in newborns and children.
26. Variations and anomalies of the skull bones. Critique of the "theory" of racism in the theory of skull variability.
27. The first (maxillary) and second (hyoid) visceral arches, their derivatives. Anomalies in the development of the visceral arches and branchial pouches.
28. Bones of the facial skull. The orbit, the structure of its walls, openings, canals, and their purpose.
29. The temporal bone, its parts, openings, canals, and purpose.
30. The sphenoid bone, its parts, openings, and their purpose.
31. The pterygopalatine fossa, its walls, openings, and their purpose.
32. The nasal cavity. The paranasal sinuses, their purpose, development during ontogenesis, variants, and anomalies. Peculiarities in newborns and children.
33. The internal surface of the base of the skull, openings and their purpose.
34. The external surface of the base of the skull. Openings and their purpose. The temporal and infratemporal fossae and their topography.
35. Anatomical and biomechanical classification of bone joints, their functional features. Continuous bone connections.
36. Structure of the joint. Classification of joints according to the shape of the articular surfaces, the number of axes and functions. Range of movements in joints.
37. Connections of the skull bones, types of sutures. Temporomandibular joint: structure, shape, muscles acting on this joint, their blood supply, innervation.
38. Development and structure of the skeleton of the upper limb. Features of the structure of the upper limb as a tool.
39. Bones and joints of the shoulder girdle. The muscles that move the scapula and clavicle, their blood supply and innervation.
40. Shoulder joint: structure, shape, biomechanics; muscles acting on this joint, their blood supply and innervation; X-ray image of the shoulder joint.
41. Connections of the bones of the forearm and hand, their anatomical and Biomechanical features compared to the joints of the bones of the leg and foot.
42. The elbow joint, features of its structure. Muscles acting on the elbow joint, their innervation and blood supply, X-ray image of the joint.
43. Joints of the hand: structure, shape, movements. Muscles acting on the joints of the hand, their blood supply and innervation, their X-ray image.
44. Development and structure of the skeleton of the lower limb. Features of the anatomy of the skeleton, joints, and muscles of the lower limb as an organ of support and locomotion.
45. Pelvic bones and their joints. The pelvis as a whole. Its age- and gender-related characteristics: the size of the female pelvis. Features in newborns and children.

46. The hip joint: structure, shape, movements; the muscles that produce these movements, their blood supply and innervation.
47. The knee joint: structure, shape, movement. Muscles acting on the knee joint, their blood supply and innervation.
48. The ankle joint: structure, shape, and movement. Muscles acting on the ankle joint, their blood supply, and innervation.
49. Bones of the leg and foot: their connections. Arches of the foot. Passive and active "tightening" of the arches of the foot, the mechanism of their action on the foot, characteristics in newborns and children.
50. General anatomy of muscles, the structure of muscles as an organ. Development of skeletal muscles, their classification (by shape, structure, location). Anatomical and physiological cross-sectional area of muscles. Characteristics in newborns and children.
51. Accessory muscle apparatus: fascia, synovial sheaths, and bursae, their structure. Sesamoid bones; their position and purpose. P. F. Lesgaft's views on the relationship between the function and structure of muscles and bones; synergistic and antagonist muscles.
52. Muscles and fascia of the chest, their topography, structure, function, blood supply, and innervation.
53. Anatomy of the abdominal muscles, their topography, function, blood supply, and innervation. Rectus abdominis sheath. Linea alba.
54. Inguinal canal, its walls, deep and superficial rings, and canal contents. Weak points of the anterior abdominal wall.
55. Diaphragm, its development and parts, topography, function, blood supply, and innervation. Peculiarities in newborns and children.
56. Neck muscles, their functions, blood supply, and innervation. Topography of the neck muscles and fascia.
57. Facial muscles. Their development, structure, topography, functions, blood supply, and innervation.
58. Masticatory muscles. Their development, structure, topography, fascia, functions, blood supply, and innervation.
59. Muscles and fascia of the shoulder girdle: their structure, topography, function, blood supply, and innervation.
60. Muscles and fascia of the shoulder: their structure, topography, functions, blood supply, and innervation.
61. Muscles and fascia of the forearm: their structure, topography, functions, blood supply, and innervation.
62. Muscles of the hand, their functions, topography, blood supply, and innervation. Osteofibrous canals and synovial sheaths of the hand. 63. The axillary fossa, its walls, openings, and their function. The radial nerve canal.
64. Anatomy of the gluteal region: muscle topography, functions, blood supply, and innervation.
65. The anterior muscles and fascia of the thigh, their topography, functions, blood supply, and innervation. Muscular and vascular lacunae, femoral and adductor canals.
66. The femoral canal, its walls and rings (deep and subcutaneous). Practical significance. Subcutaneous fissure (fossa ovalis).
67. The medial and posterior muscles and fascia of the thigh, their topography, functions, blood supply, and innervation.
68. Muscles and fascia of the leg and foot. Their topography, functions, blood supply, and innervation.

IV. ANATOMY OF THE INTERNAL ORGANS.
69. Development of the digestive system. The relationship of the stomach and intestine with the peritoneum at different stages of ontogenesis. Peculiarities in newborns and children.
70. The oral cavity: lips, vestibule of the mouth, hard and soft palate. Their structure, blood supply, and innervation. Peculiarities in newborns and children.

71. Primary and permanent teeth, their structure, development. The dentition, its anatomical and clinical formula, blood supply, and innervation of the teeth. Peculiarities in newborns and children.
72. The tongue; development, structure, function, blood supply, innervation, regional lymph nodes. Peculiarities in newborns and children.
73. The sublingual and submandibular salivary glands: position, structure, excretory ducts, blood supply, and innervation.
74. The parotid salivary gland; position, structure, excretory duct, blood supply, and innervation. 75. The pharynx: its structure, blood supply, and innervation. Regional lymph nodes. Lymphoid ring of the pharynx. Peculiarities in newborns and children.
76. The esophagus: topography, structure, blood supply, innervation, regional lymph nodes.
77. The stomach: structure, topography, radiographic image, blood supply, innervation, regional lymph nodes. Peculiarities in newborns and children.
78. The small intestine: its parts, topography, relationship to the peritoneum, wall structure, blood supply, and innervation. Peculiarities in newborns and children.
79. The duodenum: its parts, structure, topography, relationship to the peritoneum, blood supply, and innervation. 80. The mesenteric portion of the small intestine (jejunum and ileum): wall structure, blood supply, and innervation.
81. The large intestine, its sections, topography, relationship to the peritoneum, wall structure, blood supply, innervation, regional lymph nodes, X-ray image. Peculiarities in newborns and children.
82. The cecum: structure, relationship to the peritoneum, topography of the appendix, blood supply, and innervation. Morphofunctional system of the ileocecal angle. Peculiarities in newborns and children.
83. The rectum: topography, relationship to the peritoneum, wall structure, blood supply, innervation, regional lymph nodes.
84. The gallbladder. The excretory ducts of the gallbladder and liver, blood supply, and innervation of the gallbladder. Peculiarities in newborns and children.
85. The liver: its development, structure, topography, blood supply, innervation, regional lymph nodes. Peculiarities in newborns and children.
86. The pancreas: development, topography, structure, excretory ducts, endocrine portion, blood supply, innervation, regional lymph nodes. Peculiarities in newborns and children.
87. Topography of the peritoneum in the upper abdominal cavity. Lesser omentum, omental, hepatic, proventriculus bursae, and their walls.
88. Topography of the peritoneum in the lower abdominal cavity. Greater omentum. "pockets" in the walls of the abdominal cavity.
89. External nose. Nasal cavity (olfactory and respiratory regions), blood supply, Innervation of its mucous membrane. Peculiarities in newborns and children.
90. Larynx: cartilages, joints. Elastic cone of the larynx. Relief of the inner surface of the laryngeal mucosa. Peculiarities in newborns and children.
91. Muscles of the larynx: classification, functions, innervation, and blood supply to the larynx.
92. Phylogenesis and ontogenesis of the respiratory organs. Basic principles of structure. Developmental anomalies. Peculiarities in newborns and children.
93. Trachea and bronchi: structure, topography, blood supply, and innervation.
94. Lungs: structure and topography. Segmental structure of the lungs, X-ray image. Peculiarities in newborns and children.
95. Anatomy and topography of the roots of the right and left lungs. Blood supply, innervation, and regional lymph nodes of the lungs. 96. The pleura: its parts, boundaries, pleural cavity, pleural sinuses. Peculiarities in newborns and children.
97. The mediastinum: parts, organs of the mediastinum, topography. Peculiarities in newborns and children.
98. The kidneys: structure, blood supply, innervation, regional lymph nodes. Peculiarities in newborns and children.
99. Development, structure, blood supply, innervation, and topography of the excretory ducts of the kidneys (calyces, pelvis, ureter, fornical apparatus of the calyces).

100. The urinary bladder: its development, anomalies, shape, position, wall structure, relationship to the peritoneum, blood supply, innervation, and lymphatic system. Structure of the male and female urethra.
101. Topography (syntopy and skeletotopy) of the kidney; its relationship to the peritoneum. Renal membranes: renal fixation apparatus; topography of the renal pedicle elements. Regional lymph nodes. Peculiarities in newborns and children.
102. Ureter, urinary bladder: structure, topography, radiographic image, blood supply, innervation. Urethra, its sexual characteristics.
103. Phylogenesis and ontogenesis of the urinary organs. Variants and malformations. General patterns of the urinary system.
104. External male genitalia: their development, structure, variants, and anomalies. Blood supply, innervation, lymph drainage. Spermatic cord, its components.
105. Testicle, epididymis. Their development, structure, blood supply, and innervation. Endocrine portion of the testicle, testicular membranes. Signs of fetal maturity.
106. Prostate gland, seminal vesicles. Bulbourethral glands: development and their relationship to the urethra. Blood supply, innervation. Regional lymph nodes of the prostate gland.
107. Ovaries, their topography, structure, relationship to the peritoneum, blood supply, innervation. Endocrine portion of the ovaries.
108. Ovarian appendages, their origin, topography, relationship to the peritoneum.
109. Uterus: uterine ducts. Developmental anomalies, parts, topography, ligaments, relationship to the peritoneum, blood supply, innervation, regional lymph nodes.
110. Fallopian tube, structure, relationship to the peritoneum, blood supply, innervation.
111. Vagina: development, structure, anomalies, blood supply, innervation, relationship to the peritoneum. Features in newborns and children.
112. Female genital organs: development, anomalies, structure, blood supply, and innervation. Peculiarities in newborns and children.
113. Muscles and fascia of the male and female perineum, their blood supply, and innervation.
114. Anatomy of the peritoneum in the male and female pelvic cavity, its relationship to the rectum, bladder, uterus, and other organs.
V. ANATOMY OF BLOOD AND LYMPHATIC VESSELS; ORGANS OF THE IMMUNE SYSTEM.
115. General anatomy of blood vessels, patterns of their location and branching (Pirogov, Lesgaft, Shevkunenko, Kasatkin, Prives, Kupriyanov). Main, extraorgan, and intraorgan vessels. Characteristics of the microcirculatory bed.
116. Development of arteries of the head and neck, trunk, and extremities. Main anomalies and malformations of large arteries.
117. Arterial and venous anastomoses. Collateral blood flow routes (examples).
118. Development of veins. Variants and anomalies of large venous vessels. Patterns of vein distribution. Peculiarities in newborns and children.
119. Venous plexuses. Intersystemic and intrasystemic venous anastomoses (cava-caval and portocaval).
120. Peculiarities of fetal blood supply and its changes after birth.
121. Heart: development, topography, projection of the borders and valves of the heart onto the anterior chest wall, structure of the chambers, X-ray image of the heart. Peculiarities in newborns and children.
122. History of the discovery of blood circulation (Galen, Sereet, Harvey).
123. Phylogenesis and ontogenesis of the heart and its anomalies. Age-related and typical anatomy of the heart.
124. Projection of the borders and valves of the heart onto the chest. Peculiarities in newborns and children.
125. Peculiarities of the structure of the myocardium of the atria and ventricles. Conduction system of the heart. Pericardium, its topography. Peculiarities in newborns and children.
126. Blood supply and innervation of the heart.

127. Vessels of the systemic circulation (general characteristics). Patterns of distribution of arteries and veins in the human body. Peculiarities in newborns and children.
128. Vessels of the pulmonary circulation. General characteristics. Patterns of their distribution in the lungs.
129. The aorta and its divisions. Branches of the aortic arch and its thoracic region (parietal and visceral branches).
130. Pathways of microcirculation (Malpighi, Shumlyansky, Kupriyanov). Vascular anastomoses (pathways of bypass blood flow).
131. Parietal and visceral (paired and unpaired) branches of the abdominal aorta. Features of their branching and anastomoses.
132. The common, external, and internal iliac arteries and their branches.
133. The external carotid artery, its topography, branches, and the areas they supply.
134. The internal carotid artery, its topography, branches. Blood supply of the brain. Circle of Willis.
135. The subclavian artery: topography, branches, and the areas they supply.
136. The axillary and brachial arteries: topography, branches, and the areas they supply. Blood supply of the shoulder joint.
137. Arteries of the forearm and hand: topography, branches, and the areas they supply. Blood supply of the elbow joint.
138. The common, external, and internal iliac arteries, their branches and the areas they supply.
139. The femoral and popliteal arteries, their branches and the areas they supply. Blood supply to the knee joint.
140. Arteries of the leg: topography, branches, and areas supplied by them. Blood supply to the ankle joint.
141. Morphological and functional features of the venous system. Anatomical devices that ensure blood flow through the veins to the heart. The functional role of the venous system in health and disease. Peculiarities in newborns and children.
142. The superior vena cava, its sources of formation and topography. The azygos and hemiazygos veins and their anastomoses.
143. The brachiocephalic veins, their formation. The venous blood outflow pathways from the head, neck, and upper limb. Peculiarities in newborns and children.
144. The inferior vena cava, its sources of formation and topography. Tributaries of the inferior vena cava and anastomoses.
145. The portal vein. Its tributaries, their topography, and branching of the villous vein in the liver. Anastomoses of the portal vein and its tributaries.
146. Veins of the brain. Venous sinuses of the dura mater. Venous emissaries and diploic veins. Peculiarities in newborns and children.
147. Superficial and deep veins of the upper limb and their topography.
148. Superficial and deep veins of the lower limb and their topography.
149. Principles of the structure of the lymphatic system (capillaries, vessels, trunks, and ducts), sites of production and drainage of lymph into the venous bed. Factors ensuring lymph movement. The lymph node as an organ.
150. Thoracic and right lymphatic ducts, their formation, structure, topography, and points of entry into the venous bed.
151. Development of the lymphatic system, individual and age-related features of the anatomy of large lymphatic vessels. The functional significance of the lymphatic system. Peculiarities in newborns and children.
152. The lymph node as an organ (structure, functions). Classification of lymph nodes.
153. Lymphatic vessels and regional lymph nodes of the head and neck. Peculiarities in newborns and children.
154. Mural and visceral lymph nodes of the thoracic cavity. Lymph drainage pathways from the lungs, heart, and esophagus.
155. Lymphatic vessels and regional lymph nodes of the upper limb.
156. Lymphatic vessels and regional lymph nodes of the lower limb.

157. Lymph drainage pathways from the mammary gland and its regional lymph nodes.
158. Lymphatic bed of the lungs and lymph nodes of the thoracic cavity.
159. Lymphatic vessels and regional lymph nodes of the abdominal organs.
160. Lymphatic bed and regional lymph nodes of the pelvis.
161. Organs of the immune system, their classification. Central and peripheral organs of the immune system. Patterns of their structure in human ontogenesis. Peculiarities in newborns and children.
162. Central organs of the immune system (bone marrow, thymus gland). Their structure, development, and topography. Peculiarities in newborns and children.
163. Peripheral organs of the immune system, their topography, and general structural features in ontogenesis. Peculiarities in newborns and children.
164. Spleen (function: development, topography, structure, blood supply, and innervation).
VII. ANATOMY OF THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM.
165. Development of the nervous system in phylogenesis and ontogenesis. Subdivision of the nervous system into sections according to development, structure, and function. Peculiarities in newborns and children.
166. The nervous system and its importance in the body. Classification of the nervous system and the interrelationships of its parts. Peculiarities in newborns and children.
167. Reflex theory (Sechenov, Pavlov): the doctrine of reflexes. Structure of the reflex arc at the level of a spinal cord segment, reflex ring. Types of reflexes.
168. Concept of a neuron (neurocyte). Nerve fibers, branches, and roots; intervertebral ganglia. Simple and complex reflex arcs. Spinal cord segment.
169. Spinal cord (its development, segmentality, topography, internal structure). Localization of conducting pathways in the white matter. Blood supply to the spinal cord. Peculiarities in newborns and children.
170. Spinal cord segment. Principles of segmental innervation of the body, Zakharyin-Ged zones. The concept of viscerocutaneous, viscero-motor, viscero-visceral, and cutaneous-visceral reflexes.
171. Development of the brain and spinal cord, the cerebral vesicles and their derivatives. Critique of the theory of racism in brain theory. Peculiarities in newborns and children.
172. The medulla oblongata. The external and internal structure of the nucleus, the topography of the cranial nerve nuclei.
173. The rhomboid fossa, its relief, the projection of the cranial nerve nuclei.
174. The fourth ventricle of the brain, its walls, the circulation pathways of the cerebrospinal fluid.
175. The hindbrain. Its parts, internal structure. The hindbrain.
176. The cerebellum, its structure, the cerebellar nuclei, the cerebellar peduncles, their fiber composition.
177. The midbrain, its parts, their internal structure. Topography of the conducting pathways in the midbrain.
178. The diencephalon, its parts, internal structure, and functions. The third ventricle.
179. The reticular formation of the brain and its functional significance.
180. The olfactory brain, its central and peripheral parts. The olfactory analyzer. The concept of the limbic system.
181. Gray and white matter in sections of the cerebral hemispheres (basal ganglia, location and functional significance of nerve bundles in the internal capsule).
182. Commissural and projection fibers of the cerebral hemispheres: corpus callosum, fornices, commissures, internal capsule.
183. Lateral ventricles of the brain and their walls. Choroid plexuses. Pathways of cerebrospinal fluid circulation.
184. Sulci and convolutions of the superior-lateral surface of the cerebral hemispheres. Localization of the cortical ends of the analyzers. Peculiarities in newborns and children.
185. Sulci and convolutions of the medial and basal surfaces of the cerebral hemispheres. Localization of the cortical ends of the analyzers. Structure of the cerebral cortex and the associative system of its white matter fibers. The doctrine of the dynamic localization of functions in the cerebral cortex in light of the materialistic teachings of I.P. Pavlov.

186. Parts of the brain, their morphological and functional characteristics. Peculiarities in newborns and children.
187. The first and second signaling systems according to Pavlov. Structure, functions, and clinical significance. Localization of the cortical ends. Peculiarities in newborns and children.
188. The pyramidal system. The modern concept of the motor analyzer.
189. The extrapyramidal system (nuclei and pathways): its structure, functions, and clinical significance. 190. Conducting pathways of exteroceptive types of sensitivity (pain, temperature, touch, pressure). Medial lemniscus, fiber composition, position on brain sections.
191. Conducting pathways of proprioceptive sensitivity of cerebellar and cortical direction.
192. Meninges of the brain and spinal cord, their structure. Subdural and subarachnoid space. Pathways of cerebrospinal fluid circulation.
193. Patterns of development of spinal and cranial nerves during ontogenesis and their influence on organogenesis. Clinical significance of structural features of the peripheral nervous system.
194. General patterns of cranial nerve structure. First and second pairs of cranial nerves. Conducting pathway of the visual analyzer. Features in newborns and children.
195. Cranial nerves; 3rd, 4th, 6th pairs, areas of innervation. Pathways of pupillary reflexes.
196. The fifth cranial nerve, nuclei, topography of its branches, innervation areas, and functions.
197. The seventh cranial nerve, nuclei, topography of its branches, innervation areas, and functions. The pathways of the organs of hearing and balance. The auditory analyzer.
198. The eighth cranial nerve and the topography of its nuclei. The pathways of the organs of hearing and balance. The auditory and vestibular analyzers.
199. The ninth cranial nerve, nuclei, branches, topography, and innervation areas.
200. The tenth cranial nerve, nuclei, topography, divisions, innervation areas, and functions.
201. The eleventh and twelfth cranial nerves, their nuclei, topography, and innervation areas. Innervation of the tongue.
202. Concept of a spinal cord segment. The formation principle of spinal nerves, their branches, and plexuses. Intrastem structure of peripheral nerves. Patterns of nerve distribution.
203. General patterns of spinal nerve formation. The cervical plexus: its topography, branches, and innervation areas.
204. Branches of the supraclavicular part of the brachial plexus: branches, topography, and innervation areas. Branches of the infraclavicular part of the brachial plexus. Group innervation of muscles. Innervation of the skin of the upper limb.
205. Intercostal nerves: their branches, topography, and innervation areas. Innervation of the skin of the trunk.
206. Lumbar plexus: topography of its branches, innervation areas.
207. Sacral plexus: its nerves, and innervation areas. Sciatic nerve: its branches. Innervation of the gluteal region and skin of the lower limb.
208. Innervation of the skin of the trunk and extremities.
209. The autonomic nervous system, its division and characteristics of its sections.
210. Patterns of structure and function of the autonomic nervous system. The concept of local, segmental, and suprasegmental autonomic centers. The difference between the autonomic and animal nervous systems.
211. The parasympathetic division of the autonomic nervous system. General characteristics, nodes, and distribution of branches. The structural principle of parasympathetic reflex arcs at the level of the cranial and sacral divisions.
212. The sympathetic division of the autonomic nervous system, general characteristics.
213. The principle of sympathetic reflex arc construction. Morphological and physiological differences between the sympathetic and parasympathetic divisions of the autonomic nervous system. The concept of organ reinnervation (Golub D.M.).
214. The cervical sympathetic trunk; topography, nodes, branches, and areas innervated by them. Autonomic innervation of the head organs.
215. The thoracic sympathetic trunk; its topography, nodes, and branches. Innervation of the heart.

216. The lumbar and sacral sympathetic trunk; their nodes and branches. Sympathetic plexuses of the thoracic, abdominal, and pelvic cavities.
217. Sympathetic plexuses of the abdominal cavity and pelvis (celiac, superior and inferior mesenteric, superior and inferior hypogastric plexuses). Sources of formation, nodes, and branches.
VIII. ANATOMY OF THE SENSE ORGANS
218. Characteristics of the sense organs in Pavlov's theory of analyzers. Critique of the theory of physiological idealism. Peculiarities in newborns and children.
219. The organs of hearing and balance: general structure and functional features. The conduction pathway of the gravitational analyzer. Structure of the auditory analyzer. Peculiarities in newborns and children.
220. The outer ear, its parts, and anatomical features. The eardrum. Ontogenesis and developmental anomalies. Blood supply, innervation, lymph drainage. The outer ear as a reflexogenic zone. Peculiarities in newborns and children.
221. Anomalies of the middle ear (tympanic cavity, auditory ossicles, auditory tube, mammillary cells. Ontogenesis and developmental anomalies. Blood supply. Innervation, lymph drainage, clinical significance of the anatomical structures of the middle ear.
222. The inner ear: bony and membranous labyrinths. Spiral (organ of Corti), sound-conducting apparatus. The pathway of the auditory analyzer. Phylogenesis and ontogenesis.
223. Phylogenesis and ontogenesis of the visual organ. General structure. Developmental anomalies. Visual analyzer. Features in newborns and children.
224. Refractive media of the eyeball: cornea, circulation of intraocular fluid in the chambers of the eye, lens, vitreous body.
225. Fibrous choroid of the eye. Its parts. Accommodation mechanism. Concept of Iridology. Pupillary and corneal reflexes.
226. The retina. The visual analyzer pathway.
227. Accessory apparatus of the eyeball: muscles, eyelids, lacrimal apparatus, conjunctiva, their vessels and nerves.
228. Organs of taste and smell. Their topography, structure, blood supply, innervation. Olfactory analyzer. Features in newborns and children.
229. Anatomy of the skin and its derivatives. Mammary gland: topography, structure, blood supply, innervation. Structure of the cutaneous analyzer. Features in newborns and children.
IX. ANATOMY OF THE ENDOCRINE GLANDS:
230. Classification of endocrine glands. Features in newborns and children.
231. Branchiogenic endocrine glands: thyroid, parathyroid glands. Their structure, topography, Development, blood supply, innervation.
232. Neurogenic endocrine glands: the pituitary gland, the adrenal medulla, and the pineal gland (epiphysis), their structure, topography, structure, and function.
233. The group of endocrine glands of the adrenal system; chromaffin bodies (paraganglia) - carotid and coccygeal, interrenal (interrenal) corpuscles. Their development, structure, and topography.
234. The pancreas, its endocrine section, structural features and functions. Peculiarities in newborns and children.
235. The adrenal glands, their development, topography, structure, blood supply, and innervation.
236. The sex glands, their endocrine section, structural features and functions. Peculiarities in newborns and children.
237. Development of the endocrine glands and their classification. Morphological structural features. The concept of nervous and Humoral regulation. Main types of hormones and their properties. Peculiarities in newborns and children.

APPROVED
at the meeting of the Department of
Anatomy and Operative Surgery
Protocol No. 8 dated May 14, 2026

Department Head _____ Yu. A. Shakalo

**AMENDMENTS AND CHANGES TO THE WORKING CURRICULUM FOR THE DISCIPLINE "ANATOMY"
SPECIALTY 31.05.01 GEIIERAL MEDICINE
FOR THE 2026-2027 ACADEMIC YEAR**

1. The volume of contact work in the discipline has been reduced from 216 to 192.
2. The volume of independent work in the discipline has been increased from 108 to 132.
3. **Clause 2.1. "Scope of the discipline and types of academic work" of Section 2 shall be set out as follows:**

Types of educational work	Total hours	Semesters		
		1	2	3
Lectures	48	16	16	16
Practical classes	144	48	48	48
Independent work of students	132	44	44	44
Exam	36			36
Total labor intensity in hours	360	108	108	144
Total workload in credit units	10	3	3	4

4. **Clause 2.2. "Thematic plan of lectures and their summary" of section 2 shall be set out as follows:**

Item No.	Topics and content of lectures	Codes of the formed competencies	Labor intensity (hours)
1.	Introduction to anatomy. General issues of modern anatomy. Definition of the subject of anatomy as a science. The importance of anatomy for medicine. Its place among the biological sciences and its relationship with other sciences. Basic conceptual framework in anatomy. The concept of genesis and age periods. Research methods in anatomy.	UK-1 UK-6 OPK-10	2
2.	General Osteology Morphofunctional characteristics of bones. Skeletal development during ontogenesis and phylogenesis. Bone classification. Bone as an organ. Periosteum. Bone marrow. Age-related changes in bones. The relationship between the skeletal and muscular systems. Bone in X-ray imaging. The influence of work and sports on bone structure in living humans. The relationship between the social and biological in bone structure.	UK-1 UK-6 OPK-10	2
3.	Morphofunctional, genetic, and anthropological characteristics of the bones of the trunk and limbs. Age-related characteristics Development of the torso bones. Bone structure of the spine. Structural features. Biomechanics of the spine. Development and structure of the bones of the limbs.	UK-1 UK-6 OPK-10	2
4.	Morphofunctional, genetic, and anthropological characteristics of the cranial bones. Age-related characteristics Morphofunctional characteristics of the skull. Division of the skull into the facial and cerebral regions. Development of the skull during ontogenesis and phylogenesis. Anthropological norms of the skull. Variability of the skull. Variations and anomalies in skull structure. Critique of theories of racism in the theory of the skull.	UK-1 UK-6 OPK-10	2
5.	General Arthrosyndesmology Development of joints during ontogenesis. Classification of joint types according to their development, function, and structure. Types of continuous joints, semi-joints. Classification of discontinuous joints by the shape of the articular surfaces and by	UK-1 UK-6 OPK-10	2

	function.		
6.	Morphofunctional and genetic characteristics of joints. General characteristics of large joints of the extremities. Age-related characteristics. The structure of the joint and its accessory apparatus. Dialectical categories of form and content as exemplified by the theory of joints. General characteristics of extremity joints, types of joint movement, and their elementary analysis. The significance of P.F. Lesgaft's work in the theory of bone articulation.	UK-1 UK-6 OPK-10	2
7.	General Myology Striated and smooth muscles, their structure and function. Muscle development during ontogenesis. The relationship between muscular and nervous system development. Muscles as organs. Muscle shape and classification. Muscle function and biomechanics. Muscle accessory apparatus. Fascia. Basic information on muscle strength. Anatomical and physiological muscle diameters. The concept of levers. Functional grouping of muscles based on their action and interaction.	UK-1 UK-6 OPK-10	2
8.	Anatomical and topographic characteristics of the muscles of the trunk and extremities. Features of the upper abdominal wall. Features of the anterior abdominal wall. Features of the posterior abdominal wall. Clinical significance of the anatomical features of the abdominal cavity walls. Inguinal and femoral canals. Muscles of the back and chest, their functional purpose. Comparative anatomical characteristics of the muscles of the upper and lower extremities. Topographic structures of musculofascial structures in the extremities.	UK-1 UK-6 OPK-10	2
9.	General overview and morphofunctional characteristics of internal organs. Morphofunctional and genetic characteristics of the digestive system. Definition of internal organs. General principles of their structure (tubularity), their genetic relationships, and their functional purpose in the body. Definition of the digestive organs and their general overview. Morphological and functional characteristics. Anatomy of the oral cavity, esophagus, stomach, small and large intestines. Topography of the peritoneum.	UK-1 UK-6 OPK-10	2
10.	Morphofunctional and genetic characteristics of the respiratory system. Mediastinum General overview of the respiratory organs, their morphofunctional characteristics. Concept of the upper and lower respiratory tract. Modern view of the structure of the lungs. Paris nomenclature of lung segmentation. Concept of the pleural cavity and sinuses. Skeletotopy of the lungs and pleura. Concept of the mediastinum. Development of the lungs and pleura.	UK-1 UK-6 OPK-10	2
11.	Morphofunctional and genetic characteristics of the genitourinary system General overview of urination. Kidney development. Renal developmental abnormalities. Segmental structure of the kidneys. Development of the urinary bladder and urethra. Structure of the male and female reproductive systems. Development of the male and female reproductive organs. Testicular descent.	UK-1 UK-6 OPK-10	2
12.	Morphofunctional and genetic characteristics of the heart. Structure and topography of the heart. Study of the heart in a living person. Ontogenesis and phylogenesis of the heart. Anatomy of cardiac development.	UK-1 UK-6 OPK-10	2
13.	Morphofunctional and Genetic Characteristics of the Arterial System. General information on the structure of the vascular system. History of the discovery of blood circulation. Development of the vascular system. Manifestation of the dialectical category of form and content as exemplified by the vascular system. General patterns of arterial vessel distribution. Collateral circulation. Variations and anomalies in vascular development of greatest practical significance.	UK-1 UK-6 OPK-10	2
14.	Morphofunctional and genetic characteristics of the venous system. Development of the venous system during ontogenesis and phylogenesis. Factors contributing to blood flow in the veins. Connections between veins of different zones. Functional and clinical characteristics of heterogeneous structures found in the venous system. Age-related changes in the venous system. Clinical methods for examining the venous system.	UK-1 UK-6 OPK-10	2
15.	Morphofunctional and genetic characteristics of the lymphatic and immune systems. Development of the lymphatic system. Structural features of the lymphatic system. Differences between lymphatic and blood vessels. Connections between the lymphatic and venous systems. Anatomical and clinical concepts of regional lymph nodes. Factors facilitating lymph flow, methods for examining the lymphatic system. Lymphatic-venous anastomoses. Structural features of the organs of the immune system (central and peripheral). Their development and age-related changes.	UK-1 UK-6 OPK-10	2
16.	Morphofunctional and genetic characteristics of endocrine glands. Nervous and humoral regulation, regulation, and correlation of various vital processes. Classification of endocrine glands and their morphological and functional characteristics. Age-related changes in endocrine glands.	UK-1 UK-6 OPK-10	2
17.	Morphofunctional and genetic characteristics of the nervous system. Anatomy of the spinal cord. The nervous system and its leading role in the living organism (I.P. Pavlov). Biological integrity of the organism. The organism's relationship with the external environment. Phylogenesis and ontogenesis of the nervous system. Morphofunctional characteristics of the	UK-1 UK-6 OPK-10	2

	spinal cord. The concept of a segment and segmental apparatus of the spinal cord. Spinal cord membranes. Age-related changes.		
18.	Morphofunctional characteristics of the brainstem. Morphofunctional characteristics of the diencephalon and telencephalon. Brainstem structure: medulla oblongata, pons, midbrain, and diencephalon. Structural features of each section (reference diagrams). Differentiation of brainstem sections during developmental stages. Diencephalon structure. Telencephalon structure. Gray matter (basal ganglia, cortex), white matter (fiber types). Characteristics of signaling centers 1 and 2.	UK-1 UK-6 OPK-10	2
19.	Morphofunctional characteristics of the conducting pathways, reticular formation, and limbic system. Definition of the concept "Conducting pathways of the brain and spinal cord." Morphological and functional characteristics of the conducting pathways. Classification of conducting pathways. Pyramidal and extrapyramidal systems of conducting pathways. Their functional unity. The motor analyzer as a functional integration of all analyzers. Concept of the reticular formation and limbic system.	UK-1 UK-6 OPK-10	2
20.	The study of the sense organs. Morphofunctional characteristics of the visual organ. The sensory organ as an anatomical and physiological apparatus of sensation. The concept of analyzers. Classification of analyzers. The visual organ and its morphofunctional characteristics.	UK-1 UK-6 OPK-10	2
21.	Morphofunctional characteristics of the organs of hearing, taste, and smell. Skin anatomy Morphofunctional characteristics of the organs of hearing and balance. Gravity and balance receptors. Hearing, gravity, and balance analyzers. Skin as an organ. Layered structure of the skin.	UK-1 UK-6 OPK-10	2
22.	Morphofunctional and genetic characteristics of the peripheral nervous system (cranial nerves). General concepts of the peripheral nervous system. Principle of cranial nerve formation. Classification of cranial nerves. Morphofunctional and clinical characteristics, topography, and distribution of the V, VII, IX, and X pairs of cranial nerves.	UK-1 UK-6 OPK-10	2
23.	Morphofunctional characteristics of the peripheral nervous system (spinal nerves). General concepts of the peripheral nervous system. Formation of nerve plexuses. Characteristics of spinal nerve plexuses. Morphofunctional characteristics, topography, and distribution of peripheral nerves.	UK-1 UK-6 OPK-10	2
24.	Morphofunctional characteristics of the parasympathetic and sympathetic parts of the autonomic nervous system. A dialectical assessment of the antagonism between the sympathetic and parasympathetic divisions of the autonomic nervous system. The adaptive and trophic role of the autonomic nervous system. Division of the autonomic nervous system into divisions. Features of the autonomic reflex arc. Characteristics of the structure of the parasympathetic system. Features of the formation of reflex arcs in the brain and spinal cord. Morphofunctional differences between the autonomic and somatic nervous systems. Features of the autonomic reflex arc and characteristics of the structure of the sympathetic part of the autonomic system. Anatomy of the sympathetic trunk.	UK-1 UK-6 OPK-10	2
Total hours			48

5. **Clause 2.3. “Thematic plan of practical classes” of section 2 shall be presented as follows:**

Name of the topics of practical classes	Contents of practical classes	Codes of developed competencies and indicators of their achievement	Types of control	Labor intensity (hours)
Incoming inspection Introduction. General osteology.	Entrance inspection Theoretical part Subject of anatomy. Methods of anatomical examination. Anatomical terminology. Axes and planes of the body. Bone as an organ. Bone development. Bone classification. Dependence of bone development on internal and external factors. Practical part sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. OPK-10: ID 10.2.	Frontal survey, control schemes, input control task	3
Skeleton of the trunk	Theoretical part Vertebrae, sternum, ribs. The structure of these bones.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1,	Frontal survey, control schemes, practical skills	3

	Practical part Palpation of the torso bones on a model, anthropometry, sketching diagrams.	6.3. OPK-10: ID 10.2. OPK-11: ID 11.3.	on the drug	
Skeleton of the upper limbs.	Theoretical Part The upper limb girdle includes the clavicle and scapula. The free upper limb skeleton includes the humerus, forearm bones (radius, ulna), and hand bones. Practical Part Palpation of the upper limb bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Skeleton of the lower limbs.	Theoretical Section The lower limb girdle includes the ilium, pubis, and ischium. The free lower limb skeleton includes the femur, patella, lower leg bones (tibia, fibula), and foot bones. Practical Section Palpation of the lower limb bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Skeleton of the head (bones of the braincase).	Theoretical section General characteristics of the skull. Bones of the cranial region: occipital, sphenoid, temporal, parietal, frontal, and ethmoid. Practical section Palpation of the cranial region bones on a model, anthropometry, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Skeleton of the head (bones of the facial skull).	Theoretical Section Maxilla, palatine bone, inferior nasal concha, nasal and lacrimal bones, vomer, zygomatic bone, mandible, and hyoid bone. Age- and gender-specific characteristics of the cranial bones. Skull topography: orbit, nasal cavity; temporal, infratemporal, and pterygopalatine fossae; external and internal cranial bases. Practical Section Palpation of facial bones on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3
Final lesson on osteology.	Theoretical part Question on medications, theoretical and lecture material. Practical part Test of anthropometric skills.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
General arthrology. Joints of the bones of the skull and trunk.	Theoretical Section Patterns of the structure, development, and classification of joints (discontinuous, continuous, semi-joints; fibrous, cartilaginous, synovial). Vertebral joints. The spinal column as a whole. Joints of the ribs and sternum. The rib cage as a whole. Joints of the cranial bones. The skull as a whole. Practical Section Determining the axes of joint motion on a model, dissection, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3

Joints of the bones of the upper limb.	Theoretical Section The sternoclavicular, acromioclavicular, shoulder, and elbow joints. Joints of the forearm bones. The wrist joint. Joints of the hand bones. Practical Section Dissection, palpation of joints on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Joints of the bones of the lower limb.	Theoretical Section The pelvic bones. The pelvis as a whole. The concept of pelviometry. The hip and knee joints. The tibial joints. The ankle joint. The foot bones. The foot as a whole. Practical Section pelviometry, palpation of joints on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Final lesson on arthrology.	Theoretical section Survey on the specimens, theoretical and lecture material. Report on the specimens and preparation protocols.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3
General myology. Muscles of the head and neck.	Theoretical Section Patterns of muscle structure, development, and classification. Muscle as an organ. Accessory muscle apparatus (fascia, fibrous canals, synovial sheaths, bursae). Muscles of the head and neck. Major groups, topography. Practical Section Muscle dissection, palpation of muscle groups on a model, preparation of reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Muscles of the trunk (chest, back, abdomen).	Theoretical part Major muscle groups, topography. Diaphragm. Practical part Dissection, muscle palpation on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Muscles of the upper limbs.	Theoretical part Major muscle groups, topography (pits, openings, grooves, canals). Fascia and tendon sheaths. Practical part Dissection, palpation of muscle groups on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Muscles of the lower limbs.	Theoretical part Major muscle groups, topography (pits, openings, grooves, canals). Fascia and tendon sheaths. Practical part Dissection, palpation of muscle groups on a model, anthropometry, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3

Final lesson on myology.	Theoretical section Survey on the specimens, theoretical and lecture material. Report on the specimens and preparation protocols.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	Theoretical section General overview and development of the digestive system. Oral cavity, palate, tongue, teeth. Practical section Dissection, oral cavity examination on a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Pharynx, esophagus, stomach. Topography of organs.	Theoretical section Understanding the topography of internal organs (holotopy, skeletotopy, syntopy). The lines of the thorax and abdominal region. The structure of the pharynx, esophagus, and stomach. Practical section Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Small and large intestine, salivary glands, liver, pancreas.	Theoretical part The structure of the small and large intestines, salivary glands, liver, and pancreas. Practical part Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Peritoneum and its derivatives.	Theoretical section The structure of the peritoneum and its derivatives (mesentery, ligaments, omenta, bursae, pockets, canals). The relationship of organs to the peritoneum. The layers of the abdominal cavity. Practical section Dissection, working with a model, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Respiratory system: nose, larynx, trachea, bronchi, lungs.	Theoretical section General overview and development of the respiratory system. Nasal cavity, larynx, trachea, bronchi, lungs. Practical section Dissection, working with a model (determining the projection contours of organs), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Pleura and mediastinal organs.	Theoretical part Pleura and mediastinum. Practical part Dissection, working with a model (determining the projection contours of organs), sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3

Urinary system.	Theoretical section General overview and development of the genitourinary system. Kidneys, ureters, bladder, and urethra. Practical section Dissection, working with a model, preparing reports, and sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Male reproductive system.	Theoretical part Structure of the male reproductive organs. Practical part Dissection, preparing reports, drawing diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Female reproductive system.	Theoretical section Structure of the female genital organs. Perineum (anatomical and clinical definition). Topography of the peritoneum in the pelvic region. Practical section Dissection, presentation preparation, diagramming.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Vascular system. Circulatory system. Heart, pericardium.	Theoretical Section General principles of the vascular system. Circulatory systems. Heart structure. Pericardium. Blood supply and innervation of the heart, conduction system. Projection of borders and valves. Practical Section Dissection, working with a model (determining the borders of the heart), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Aorta. Arteries of the head and neck.	Theoretical Section General principles of the structure and development of the arterial system. Aorta (ascending limb and arch). Common, external, and internal carotid arteries. Practical Section Dissection, preparing reports, working with a model (palpation of arteries), sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	Theoretical part Descending aorta (thoracic and abdominal). Parietal and visceral branches. Practical part Dissection, preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Arteries of the upper and lower limbs.	Theoretical section Subclavian and axillary arteries. Arteries of the upper limb. Iliac arteries. Arteries of the lower limb. Collateral circulation. Practical section Dissection, working with a model (palpation of vessels), preparing abstracts and reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3

Venous system.	Theoretical Section General principles of the structure and development of the venous system. The superior and inferior vena cava, and the portal vein. Structural features of veins in various areas of the body (head, neck, trunk, pelvis, extremities). Cava and portocaval anastomoses. Fetal circulation. Practical Section Dissection, working with a model (venous palpation), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Lymphatic system. Immune system.	Theoretical Section General principles of the structure and development of the lymphatic system. The lymph node. Patterns of distribution of lymphatic vessels and nodes. Lymphatic vessels and nodes of specific body regions (head, neck, torso, upper and lower extremities). Practical Section Dissection, working with a model (palpation of nodes), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Endocrine glands.	Theoretical part Endocrine glands (classification, location, and structure). Practical part Dissection, working with a model (palpation of glands), preparing reports, sketching diagrams.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Spinal cord	Theoretical Section General principles of the structure and development of the nervous system. Spinal cord (external shape and location). Structure of gray and white matter. Concepts of the reflex arc, segment, segmental, and suprasegmental apparatus. Spinal cord membranes. Practical Section Dissection, diagramming, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Medulla oblongata, pons, cerebellum, midbrain.	Theoretical part The rhomboid and midbrain. Their external and internal structure. Practical part Dissection, drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Diencephalon, telencephalon.	Theoretical Section The diencephalon and telencephalon (basal ganglia and white matter of the hemispheres). Their external and internal structure. The concept of the olfactory brain and analyzer. Practical Section Dissection, diagramming, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Cerebral cortex.	Theoretical Part The cerebral mantle. The topography of the mantle (sulci and convolutions). The structure of the cerebral cortex. The cortical ends of the analyzers of the 1st and 2nd signal systems. Practical Part Dissection, sketching diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3

Conducting pathways of the spinal cord and brain.	Theoretical Section Afferent (ascending) pathways of the spinal cord and brain. Efferent (descending) pathways of the brain and spinal cord. Concepts of: the motor analyzer; the pyramidal, extrapyramidal, and limbic systems; the reticular formation. Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Blood supply and cerebrospinal fluid dynamics of the brain.	Theoretical section Blood supply to the spinal cord and brain. Sinuses of the dura mater, cisterns of the subarachnoid space. Cerebrospinal fluid and its circulation. Practical section Drawing diagrams, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, practical skill on the drug	3
The organ of vision.	Theoretical Section The visual organ. General structural plan (eyeball, membranes, nucleus). Refractive media. The accommodative and accessory apparatus of the eye. Blood supply and innervation of the visual organ. Circulation pathways of the intraocular fluid. The lacrimal apparatus and conjunctiva. The visual analyzer. Reflex patterns: corneal, constricting, and dilating. Practical Section Dissection, sketching diagrams, preparing reports, working with a model (examination), solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
The organ of hearing and balance.	Theoretical Section The organ of hearing and balance. General structure (outer, middle, and inner ear). Blood supply and innervation. The mechanism of sound perception. Hearing and balance analyzers. Practical Section Dissection, sketching diagrams, preparing reports, working with a model (examination), solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
The organ of smell and taste. Skin.	Theoretical Section The olfactory and gustatory organs. Olfactory and gustatory analyzers. Skin and its derivatives. Pain, temperature, and tactile sensitivity analyzers. The mammary gland. Practical Section Drawing diagrams, preparing reports.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, control schemes, practical skills on the drug	3
Cranial nerves: 3, 4, 5, 6, 7 pairs	Theoretical Section General overview of the 12 pairs of cranial nerves. Patterns of structure. Exit sites from the brain and skull. Oculomotor, trochlear, abducens, trigeminal, and facial nerves (nuclei, fiber composition, topography, innervation area). Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Cranial nerves: 9,10,11,12 pairs.	Theoretical Section The vagus nerve group: glossopharyngeal, vagus, and accessory nerves. Hypoglossal nerve. Nuclei, fiber composition, topography, and innervation areas. Practical Section Drawing diagrams, preparing reports, and solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID	Frontal survey, solution of clinical and anatomical problems, control schemes,	3

		10.2. OPK-11: ID 11.3, 11.4.	practical skills on the drug	
Spinal nerves and their branches: cervical and brachial plexus.	Theoretical Section Spinal nerve and its branches. Formation of plexuses. Posterior rami of spinal nerves and their distribution areas. Cervical and brachial plexuses (topography, branches, innervation areas). Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Thoracic nerves, lumbar plexus.	Theoretical section Nerves of the chest and abdominal walls, lumbar plexus (topography, branches, innervation areas). Practical section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Sacral and coccygeal plexus. Innervation of the skin.	Theoretical Section Sacral plexus (topography, branches, innervation areas). UIRS – dissection, diagramming, report preparation, solving clinical and anatomical problems. Skin innervation. Zakharyin-Ged zones. Practical Section diagramming	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Parasympathetic division of the autonomic nervous system.	Theoretical Section General characteristics of the autonomic nervous system. Parasympathetic division (patterns of structure, nodes, distribution of branches, cranial and sacral divisions). Concept of parasympathetic reflex arcs. Practical Section Drawing diagrams, preparing reports, solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Sympathetic division of the autonomic nervous system.	Theoretical Section The sympathetic division of the autonomic nervous system (patterns of structure, trunks, nodes, and branch distribution). Understanding sympathetic reflex arcs. Practical Section Drawing diagrams, preparing reports, and solving clinical and anatomical problems.	UK-1: ID 1.1, 1.2. UK-6: ID 6.1, 6.3. UK-8: ID 8.4. OPK-10: ID 10.2. OPK-11: ID 11.3, 11.4.	Frontal survey, solution of clinical and anatomical problems, control schemes, practical skills on the drug	3
Total hours				144

6. **In paragraph 2.4. "Interactive forms of training", the table shall be presented as follows:**

Topic of the practical lesson	Labor intensity in hours	Interactive learning	Labor intensity in hours, as a percentage of the lesson
Introduction. General osteology.	3	Interactive survey	15 min
Skeleton of the trunk.	3	Clinical and anatomical tasks	15 min
Skeleton of the upper limb.	3	Clinical and anatomical tasks	15 min
Skeleton of the lower limb.	3	Clinical and anatomical	15 min

		tasks	
Skeleton of the head (bones of the braincase).	3	Clinical and anatomical tasks	15 min
Skeleton of the head (bones of the facial skull).	3	Clinical and anatomical tasks	15 min
Final lesson on osteology.	3	Clinical and anatomical tasks	15 min
General arthrology. Joints of the bones of the skull and trunk.	3	Interactive survey	15 min
Joints of the bones of the upper limb.	3	Clinical and anatomical tasks	15 min
Joints of the bones of the lower limb.	3	Clinical and anatomical tasks	15 min
Final lesson on arthrology.	3	Clinical and anatomical tasks	15 min
General myology. Muscles of the head and neck.	3	Interactive survey	15 min
Muscles of the trunk (chest, back, abdomen).	3	Clinical and anatomical tasks	15 min
Muscles of the upper limb.	3	Clinical and anatomical tasks	15 min
Muscles of the lower limb.	3	Clinical and anatomical tasks	15 min
Final lesson on myology.	3	Clinical and anatomical tasks	15 min
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	3	Clinical and anatomical tasks	15 min
Topography of organs. Pharynx, esophagus, stomach.	3	Working with a model	15 min
mall and large intestine, salivary glands, liver, pancreas.	3	Clinical and anatomical tasks	15 min
Peritoneum and its derivatives.	3	Clinical and anatomical tasks	15 min
Дыхательная система: нос, гортань, трахея, бронхи, легкие.	3	Clinical and anatomical tasks	15 min
Respiratory system: nose, larynx, trachea, bronchi, lungs.	3	Working with a model	15 min
Urinary system.	3	Clinical and anatomical tasks	15 min
Male reproductive system.	3	Clinical and anatomical tasks	15 min
Female reproductive system.	3	Clinical and anatomical tasks	15 min
Vascular system. Circulatory system. Heart, pericardium.	3	Working with a model	15 min

Aorta. Arteries of the head and neck.	3	Clinical and anatomical tasks	15 min
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	3	Clinical and anatomical tasks	15 min
Arteries of the upper and lower limbs.	3	Clinical and anatomical tasks	15 min
Venous system.	3	Clinical and anatomical tasks	15 min
Lymphatic system. Immune system	3	Clinical and anatomical tasks	15 min
Endocrine glands.	3	Clinical and anatomical tasks	15 min
Spinal cord	3	Clinical and anatomical tasks	15 min
Medulla oblongata, pons, cerebellum, midbrain.	3	Clinical and anatomical tasks	15 min
Diencephalon, basal ganglia and white matter of the hemispheres.	3	Clinical and anatomical tasks	15 min
Cerebral cortex.	3	Clinical and anatomical tasks	15 min
Conducting pathways of the spinal cord and brain.	3	Clinical and anatomical tasks	15 min
Blood supply to the brain and spinal cord.	3	Clinical and anatomical tasks	15 min
The organ of vision.	3	Clinical and anatomical tasks	15 min
The organ of hearing and balance.	3	Clinical and anatomical tasks	15 min
The organ of smell and taste. Skin.	3	Clinical and anatomical tasks	15 min
Cranial nerves: 3,4,5,6,7 pairs.	3	Clinical and anatomical tasks	15 min
Cranial nerves: 9,10,11,12 pairs.	3	Clinical and anatomical tasks	15 min
Spinal nerves and their branches: cervical and brachial plexus.	3	Clinical and anatomical tasks	15 min
Thoracic nerves, lumbar plexus.	3	Clinical and anatomical tasks	15 min
Sacral and coccygeal plexus. Innervation of the skin.	3	Clinical and anatomical tasks	15 min
Parasympathetic division of the autonomic nervous system.	3	Clinical and anatomical tasks	15 min
Sympathetic division of the autonomic nervous system.	3	Clinical and anatomical tasks Testing in the Moodle system	15 min 90 мин (61,5%)

7. **In paragraph 2.6. "Independent work of students: in-class, out-of-class" the table shall be presented as follows:**

Topic of the practical lesson	Time for a student to prepare for a lesson	Forms of extracurricular independent work of students	
		Compulsory and the same for all students	At the student's choice
Introduction. General osteology.	2	Working with preparations, dummies, and tablets	
Skeleton of the trunk.	2	Working with preparations, dummies, and tablets	
Skeleton of the upper limb.	2	Working with preparations, dummies, and tablets	
Skeleton of the lower limb.	2	Working with preparations, dummies, and tablets	
Skeleton of the head (bones of the braincase).	2	Working with preparations, dummies, and tablets	
Skeleton of the head (bones of the facial skull).	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Final lesson on osteology.	2	Working with preparations, dummies, and tablets	
General arthrology. Joints of the bones of the skull and trunk.	2	Working with preparations, dummies, and tablets	
Joints of the bones of the upper limb.	2	Working with preparations, dummies, and tablets	
Joints of the bones of the lower limb.	2	Working with preparations, dummies, and tablets	
Final lesson on arthrology.	2	Working with preparations, dummies, and tablets	
General myology. Muscles of the head and neck.	2	Working with preparations, dummies, and tablets	
Muscles of the trunk (chest, back, abdomen).	2	Working with preparations, dummies, and tablets	
Muscles of the upper limb.	2	Working with preparations, dummies, and tablets	
Muscles of the lower limb.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Final lesson on myology.	2	Working with preparations, dummies, and tablets	
Digestive system: oral cavity, palate, tongue, pharynx, teeth.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Topography of organs. Pharynx, esophagus, stomach.	2	Working with preparations, dummies, and tablets	
mall and large intestine, salivary glands, liver,	2	Working with preparations, dummies, and tablets	

pancreas.			
Peritoneum and its derivatives.	2	Working with preparations, dummies, and tablets	
Дыхательная система: нос, гортань, трахея, бронхи, легкие.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Respiratory system: nose, larynx, trachea, bronchi, lungs.	2	Working with preparations, dummies, and tablets	
Urinary system.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Male reproductive system.	2	Working with preparations, dummies, and tablets	
Female reproductive system.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Vascular system. Circulatory system. Heart, pericardium.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
Aorta. Arteries of the head and neck.	2	Working with preparations, dummies, and tablets	
Arteries of the thoracic and abdominal cavities. Arteries of the pelvis.	2	Working with preparations, dummies, and tablets	
Arteries of the upper and lower limbs.	2	Working with preparations, dummies, and tablets	
Venous system.	2	Working with preparations, dummies, and tablets	
Lymphatic system. Immune system	2	Working with preparations, dummies, and tablets	
Endocrine glands.	2	Working with preparations, dummies, and tablets	
Spinal cord	2	Working with preparations, dummies, and tablets	
Medulla oblongata, pons, cerebellum, midbrain.	2	Working with preparations, dummies, and tablets	
Diencephalon, basal ganglia and white matter of the hemispheres.	2	Working with preparations, dummies, and tablets	
Cerebral cortex.	2	Working with preparations, dummies, and tablets	
Conducting pathways of the spinal cord and brain.	2	Working with preparations, dummies, and tablets	
Blood supply to the brain and spinal cord.	2	Working with preparations, dummies, and tablets	
The organ of vision.	2	Working with preparations, dummies, and tablets	Preparation of an abstract, presentation
The organ of hearing	2	Working with preparations,	Preparation of an abstract,

and balance.		dummies, and tablets	presentation
The organ of smell and taste. Skin.	2	Working with preparations, dummies, and tablets	
Cranial nerves: 3,4,5,6,7 pairs.	2	Working with preparations, dummies, and tablets	
Cranial nerves: 9,10,11,12 pairs.	2	Working with preparations, dummies, and tablets	
Spinal nerves and their branches: cervical and brachial plexus.	2	Working with preparations, dummies, and tablets	
Thoracic nerves, lumbar plexus.	2	Working with preparations, dummies, and tablets	
Sacral and coccygeal plexus. Innervation of the skin.	2	Working with preparations, dummies, and tablets	
Parasympathetic division of the autonomic nervous system.	2	Working with preparations, dummies, and tablets	
Sympathetic division of the autonomic nervous system.	2	Working with preparations, dummies, and tablets	
96			36
132			

8. **The tables in Section 3.5. "Licensed and Freely Distributed Software Used in the Educational Process" and "Professional Databases, Information and Reference Systems, and Electronic Educational Resources" shall be set out as follows:**

List of Software (Commercial Software Products)

No.	List of software (commercial software products)	Details of supporting documents
1.	MS Windows 7 Pro operating system	License number 48381779
2.	Operating system: MS Windows 10 Pro	AGREEMENT No. UT-368 09/21/2021
3.	MS Office	License numbers: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4.	Kaspersky Endpoint Security for Business – Standard Russian Edition. 50-99 Node 1-year Educational Renewal License	Agreement No. 7 AA 07.02.2025
5.	1C Accounting and 1C Salary	LICENSE AGREEMENT 612/L 02.02.2022 (additional licenses)
6.	1C: PROF University	LICENSE AGREEMENT No. KrTsB-004537 12/19/2023
7.	1C: PROF Library	LICENSE AGREEMENT No. 2281 11/11/2020
8.	Consultant Plus	Contract No. 41AA27.12.2024
9.	Kontur.Tolk	Agreement No. K 213753/24 13.08.2024
10.	3KL e-learning environment (Russian Moodle)	Agreement No. 1362.5 20.11.2024
11.	Astra Linux Common Edition	Agreement No. 142 A 21.09.2021
12.	Information system "Plans"	Agreement No. 2873-24 28.06.2024

13.	1C: Document Management	Agreement No. 2191 15.10.2020
14.	Р7-Офис	Agreement No. 2 КС 18.12.2020
15.	License for the "ROSA CHROME OS Workstation"	Agreement No.88A 22.08.2024
16.	Alt Virtualization Server 10 (for secondary and higher vocational education)	Agreement No. 14АК 27.09.2024
17.	Dr.Web Desktop Security Suite Comprehensive Protection + Control Center for 12 months	Agreement No. 8 21.10.2024
18.	"Schedule for Educational Institutions" software	Agreement No. 82A 30.07.2024

List of freely distributed software

No.	List of freely distributed software	Links to the license agreement
1.	Yandex Browser	Freely distributed License Agreement for the use of Yandex Browser software https://yandex.ru/legal/browser_agreement/
2.	Yandex.Telemost	Freely distributed Software License Agreementhttps://yandex.ru/legal/telemost_mobile_agreement/
3.	Dr.Web CureIt!	Freely distributed License Agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4.	OpenOffice	Freely distributed License: http://www.gnu.org/copyleft/lesser.html
5.	LibreOffice	Freely distributed License: https://ru.libreoffice.org/about-us/license/
6.	VK Calls	Бесплатно распространяемое https://vk.com/licence
7.	Kaspersky Free Antivirus	Freely distributed https://products.s.kaspersky-labs.com/homeuser/Kaspersky4Win2021/21.16.6.467/english-0.207.0/3830343439337c44454c7c4e554c4c/kis_eula_en-in.txt

9. **3.6. Professional databases, information and reference systems, electronic educational resources**

Resource name	Resource Description	Access	Resource address
Electronic library systems			
Student Consultant. Medical University Electronic Library	For students and faculty of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids, and periodicals.	Remote access after registration under the university profile	https://www.studentlibrary.ru/
Reference and information	The MedBaseGeotar reference and information system is	Remote access after registration	https://mbasegeotar.ru/pages/index.html

system "MedBaseGeotar".	designed for practicing medical specialists, researchers, teachers, graduate students, residents, senior students, and healthcare managers to quickly search, select, and read essential medical literature from a single data source.	under the university profile	
Electronic Library System "Bookup"	A large medical library is an information and educational platform for the shared use of electronic educational and methodological publications from medical universities in Russia and the CIS countries.	Remote access after registration under the university profile	https://www.books-up.ru/
Electronic Block System "Lan"	The Network Electronic Library of Medical Universities is an electronic database of educational and scientific works on medical topics, created for the purpose of implementing network forms of professional educational programs, open access to educational materials for partner universities.	Remote access after registration under the university profile	https://e.lanbook.com/
Scientific Electronic Library "CyberLeninka"	CyberLeninka is a scientific electronic library built on the Open Science paradigm. Its primary goals are the popularization of science and scientific activity, public oversight of the quality of scientific publications, the development of interdisciplinary research, a modern institution of scientific review, increasing the citation rate of Russian science, and building a knowledge infrastructure. It contains over 2.3 million scientific articles.	free access	https://cyberleninka.ru/
Human Biology Knowledge Base	Reference information on physiology, cell biology, genetics, biochemistry, immunology, and pathology. (Source: Institute of Molecular	free access	http://humbio.ru/

	Genetics, Russian Academy of Sciences.)		
State Register of Medicines	The State Register of Medicines website contains information about medications: indications, contraindications, mechanism of action, side effects, dosages, and methods of administration.	free access	https://grls.rosminzdrav.ru/GRLS.aspx
Information systems			
Clinical Guidelines Index	A resource of the Russian Ministry of Health that contains clinical guidelines developed and approved by medical professional non-profit organizations of the Russian Federation, as well as methodological manuals, nomenclatures, and other reference materials.	Link to download the application	https://cr.minzdrav.gov.ru/#!/
Federal Electronic Medical Library (FEML)	The Federal Electronic Medical Library is part of the Unified State Healthcare Information System as a reference system. The FEML was created using the collections of the I.M. Sechenov Central Scientific Medical Library.	free access	https://femb.ru/
Russian State Library	Collection size: approximately 3 million titles Period covered: from the 11th century to the present The Russian State Library's Digital Library is a collection of electronic copies of valuable and frequently requested publications from the Russian State Library's collections, external sources, and documents originally created in electronic form.	Registration on the website	https://www.rsl.ru/
Russian Medical Associatio	A professional online resource. Purpose: to promote effective professional activity among medical personnel. Contains the charter, personnel,	free access	http://www.rmass.ru/

	structure, membership rules, and information about the Russian Medical Union.		
Web medicine	The website provides a directory of professional medical resources, including links to the most authoritative specialized websites, journals, societies, as well as useful documents and programs. It is intended for physicians, students, and staff of medical universities and research institutions.	free access	http: //webmed.irkutsk.ru/
Databases			
World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications, and much more.	free access	http://www.who.int/ru/
Ministry of Science and Higher Education of the Russian Federation	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	free access	http://www.minobrnauki.gov.ru
Ministry of Education of the Russian Federation	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	free access	https://edu.gov.ru/
Polpred.com	Electronic Library System Business Media Media Review	free access	https://polpred.com/news
Bibliographic databases			
Database "Russian Medicine"	Created at the Central Scientific and Methodological Library, it covers the entire collection since 1988. The database contains bibliographic descriptions of	free access	https://rucml.ru/

	articles from Russian journals and collections, dissertations and their abstracts, as well as Russian and foreign books, institute proceedings, conference materials, etc. Thematically, the database covers all areas of medicine and related fields of biology, biophysics, biochemistry, psychology, etc.		
PubMed	A text database of medical and biological publications in English. PubMed is an electronic search engine with free access to 30 million publications from 4,800 indexed medical journals. The database contains articles published from 1960 to the present, including information from MEDLINE, PreMEDLINE, and NLM. Each year, the portal is updated with more than 500,000 new papers.	free access	https://pubmed.ncbi.nlm.nih.gov/
eLIBRARY.RU	A Russian information portal in science, technology, medicine, and education, containing abstracts and full texts of over 13 million scientific articles and publications. The eLIBRARY.RU platform offers electronic versions of over 2,000 Russian scientific and technical journals, including over 1,000 open-access journals.	Full functionality of the site is available after registration.	http://elibrary.ru/defaultx.asp
Electronic library of dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	free access	http://diss.rsl.ru/?menu=disscatalog/
Medline.ru	Medical and biological portal for specialists. Biomedical journal.	free access	https://journal.scbmt.ru/jour/index
Official Internet	The single official state	free access	http://pravo.gov.ru/

portal of legal information	information and legal resource in Russia		