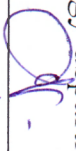


AMENDMENTS AND CHANGES TO THE CURRICULUM IN THE EDUCATIONAL DISCIPLINE
«HUMAN ANATOMY»
for the specialty 7-07-0911-03 «Dentistry»

2024/2025 academic year

Amendments and changes	Basis/Reason
1. Changes have been introduced to the Thematic plan (Appendix №2)	Educational Plan for 2024/2025 academic year
2. Changes have been introduced to the Educational Discipline Curricular Chart (Appendix 3)	Educational Plan for 2024/2025 academic year
3. The list of practical skills has been added	Department meeting of 20.06.24

The curriculum is revised and approved at the department meeting of Human morphology department (protocol # 11 of 20.06.24)

Head of the Human morphology department
MD, DSc, Professor,  SL Kabak

APPROVED
Dean of the Medical Faculty
for International Students
MD, PhD, Associate professor  OS Ishutin

THEMATIC PLAN

Section (topic) name		lectures	laboratory
1. Anatomy as a science. Bones; skeletal system	3	20	
1.1. Introduction. Axial skeleton	1,5	4	
1.2. Skull. The structure of the cranial bones	-	4	
1.3. Skull. The structure of the facial bones	1	4	
1.4. Skull, complete overview	0,5	4	
1.5. Appendicular skeleton	-	4	
2. Joints; the system of joints	1,5	4	
2.1. Classification of joints. Joints of the skull	1,5	2	
2.2. Joints of the bones of the trunk, upper and lower extremities	-	2	
3. Muscle; muscular system	1,5	12	
3.1. General characteristics of muscles. Muscles and fascia of the neck	1	4	
3.2. Muscles and fascia of the head	0,5	4	
3.3. Functional anatomy of trunk and extremity muscles	-	4	
4. Cardiovascular system	1,5	12	
4.1. General information about the structure of cardiovascular system. Anatomy of the heart. Aorta	-	4	
4.2. Arteries of the head and neck	1	4	
4.3. Veins. Lymphatic vessels, trunks and ducts	0,5	4	
5. Lymphoid system	-	2	
5.1. Morphofunctional characteristics of secondary lymphoid organs. Lymph nodes of the head and neck	-	2	
6. Endocrine glands	3	2	
6.1. Morphofunctional characteristics of the pituitary gland, pineal gland, thyroid gland, parathyroid glands, adrenal gland	-	2	
7. Nervous system	-	24	
7.1. Nervous system structure, general data. Central nervous system. Spinal cord	-	4	
7.2. Brain. Pathways of brain and spinal cord	1,5	4	
7.3. Meninges. The peripheral nervous system	1,5	4	
7.4. Cranial nerves	-	8	

Section (topic) name	Number of class hours	
	lectures	laboratory
7.5. Autonomous nervous system	-	4
8. Sense organs	-	8
8.1. Structure and functions of the organ of hearing and equilibrium	1,5	4
8.2. Structural and functional characteristics of the eye	1	4
9. Digestive system	0,5	12
9.1. General characteristics of the digestive system. The structure of the organs of the oral cavity and major salivary glands	-	4
9.2. Pharynx, esophagus, stomach, small and large intestine	1,5	4
9.3. Liver. Pancreas. Peritoneum	1	4
10. Respiratory system	0,5	4
10.1. General characteristics. The macroscopic structure of the nose, larynx, trachea	1,5	2
10.2. Lungs. Chest cavity	-	2
11. Urinary system. Reproductive systems	1	8
11.1. The structure of the urinary system	0,5	2
11.2. Functional morphology of male reproductive organs	-	2
11.3. Functional morphology of female reproductive organs	-	4
12. Anatomy of the head and neck	-	36
12.1. Development, structure, function, blood supply and innervation of neck muscles. Fascia of the neck. Cellular spaces of the neck	-	6
12.2. Vessels and nerves of the neck	-	6
12.3. Neck organs	-	3
12.4. Facial part of the head	-	3
12.5. Anatomy of the oral cavity	-	6
12.6. Anatomy of teeth	-	9
12.7. Cerebral department of the head	-	3
Total hours	15	144

ACADEMIC DISCIPLINE «HUMAN ANATOMY» CURRICULAR CHART

Section, topic #	Section (topic) name	Number of hours		Supervised student independent	Practical skills	Form of control	
		lectures	laboratory o			of practical skills	of current / intermediate assessment
1 semester							
	Lectures	6					
1.1	General osteology and arthrosyndesmology	1,5					Computer tests
2.1							
1.2	Ontogenesis of skull bones. Anatomy of the facial skeleton	1,5					Computer tests
1.3							
2.1	Joints: classification, structure and function. Temporomandibular joint.	1,5					Computer tests
3.1.	Morphofunctional characteristics of the muscles of the head and neck	1,5					Computer tests
3.2							

3.3	Overview of the structure and functions of the muscles of the trunk and extremities	1,5				Computer tests
	Laboratory lessons		36			
1.1	Introduction. Axial skeleton. The vertebral column. The skeleton of the chest 1. Methods of studying the structure of the human body. 2. Anatomical terminology. 3. Planes and axes used to describe the position of organs and parts of human body in space. 4. Classification of bones. 5. Axial skeleton. The vertebral column: departments, functions. Formation of spinal curves. 6. The general plan of the structure of the vertebra. 7. The structure of the cervical vertebrae. Features of the structure of the first, second and seventh cervical vertebrae 8.The structure of the thoracic, lumbar and sacral vertebrae. 9. Sternum: position, structure. 10. Classification of ribs. The structure of the rib. Features of the structure of the first rib. 11. The skeleton of the chest. The boundaries of the upper and lower apertures, the costal arc, the subcostal angle. Age and individual differences of the chest	4	Visualization of anatomical structures on anatomical models and other visual aids. Palpation of bone surface landmarks in the human body.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	Test control, oral enquiry. Filling in flash cards.	
1.2	Skull. The bones of the cerebral skull. 1. Skull: division into cerebral and facial divisions, name and location of bones. 2. The structure of the occipital bone: parts, relief of the outer and inner surfaces. Canals, openings and sulcus of the occipital bone. 3. The structure of the parietal bone: edges, angles, relief of the outer and inner surfaces.	4	Visualization of anatomical structures in the anatomical preparations and other visual aids Palpation of bone surface landmarks in the human body.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards.	

	4. The structure of the frontal bone: parts, relief of the outer and inner surfaces, frontal sinus. 5. The structure of the sphenoid bone: parts, canals, foramina, sphenoid sinus. 6. The structure of the ethmoid bone. Ethmoid labyrinth. 7. The structure of the temporal bone: parts, its relative positions. Relief of the outer and inner surfaces. 8. The tympanic cavity. The structure of the mastoid process. 9. Canals and canaliculi of the temporal bone: openings, direction of travel, bends, contents.				anatomical models and other visual aids Palpation of surface landmarks of the human body	
1.3	Skull. Bones of the facial skull. 1. The structure of the maxillae: body, processes. The relief of their surfaces. 2. Maxillary sinus: localization, walls, communication with the nasal cavity. 3. Palatine bone: plates, processes, its relative positions. 4. The structure of the bone palate. 5. Mandible: the relative positions of parts, the relief of corpus and processes. Mandibular canal: holes, contents. 6. Small bones of the facial skeleton: zygomatic, lacrimal, nasal, inferior nasal concha, vomer: its location and structure. 7. Hyoid bone: location, structure. 8. Development of the bone palate, maxillae and mandible.	4	Visualization of anatomical formations in the anatomical structures and other visual aids Palpation of bone surface landmarks in the human body.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards.	
1.4	Cranium, complete overview. Facial and lateral norm 1. Orbit: walls, holes, sulcus and canals. The communication of orbit with another cranial regions.	4	Visualization of anatomical formations in the anatomical	Completing workshop assignments	Test control, oral enquiry, a report on the practical	

	2. Nasal osseous cavity: borders, holes. The structure of walls (lateral, medial, superior, inferior). 3. Nasal meatus: borders, communication with another cranial cavities. 4. Fossa of lateral cranial norm. Borders and names of bones, forming the bone basis of temporal and infra-temporal fossa. Sulci of infra-temporal fossa and regions of head, in which they are opened. 5. Pterygo-palatine fossa: walls, communication with other cranial cavities. 6. Internal cranial basis: names and borders of fosses, bones, forming it. The pattern of surface; foramina, canals, sulcus. 7. Sulci of sinuses of dura mater, disposed on the external cranial base. 8. External cranial basis. Pattern, foramina, canals. 9. Cranial sutures. 10. Age-related anatomy of the facial and cerebral skull.		preparations and other visual aids. Visualization of anatomical structures in images obtained using radiation diagnostics methods. Palpation of the bone surface landmarks in the human body.	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators. Reports (abstracts).
1.5	Appendicular skeleton. The skeleton of the upper extremities 1. The structure of the shoulder girdle. 2. The skeleton of the free part of the upper limb: arm, forearm, hand. 3. Pelvic girdle; structure of hip bone. 4. The skeleton of the lower extremity free part: hip, leg, foot. 5. Similarities and differences in the structure of the skeleton of the upper and lower extremities.	4	Visualization of anatomical formations in the anatomical structures and other visual aids Palpation of bone surface landmarks in the human body.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators.

2.1	Classification of bone junctions. Union of cranial bones. Joints of the bones of the trunk, upper and lower extremities. Final class on «Osteology. Arthrosyndesmology» 1. Classification of bone junctions. 2. Morphological and functional characteristics of both continuous and discontinuous (synovial) junctions of bones. 3. Temporomandibular joint: morphological and functional characteristics 4. The structure of the median and lateral atlantoaxial joints. Atlantooccipital joint: articular surfaces, ligaments, movements. 5. Joints of vertebral column: the structure of median and lateral atlanto-axial joints. Zygapophysial joints. 6. The joints of chest: the joint head of rib and costotransverse joint, structure, types of movements. 7. The names and general morphological and functional characteristic joints of the upper and lower extremities.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense * Control enquiry on the sections "Osteology. Arthrosyndesmology" * Colloquium.
3.1	Muscles. General morphological and functional characteristics. Muscles and fascia of the neck 1. Skeleton muscle: classification, function. The structure of muscle as an organ. 2. Auxillary apparatus of muscle: fascia, synovial vagina and bags, bones and fibrous canals, sesamoid bone.	4	Visualization of anatomical formations in the anatomical preparations and other visual aids.	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids

	3. Classification of neck muscles by topography and genetic feature. 4. Superficial muscles of the neck: origin and insertion, functions. 5. Suprahyoid muscles of the neck: origin and insertion, functions 6. Infrahyoid muscles of the neck: origin and insertion, functions 7. Deep muscles of the neck: origin and insertion, functions 8. Fascia of the neck. The structure of the cervical fascia and the topography of its plates. Cellular spaces of the neck. 9. Neck topography, division into regions. The boundaries of the anterior, sternocleidomastoid and lateral regions of the neck. 10. Neck triangles.				Palpation of surface landmarks of the human body
3.2	Muscles and fascia of the head. Classification. The structure of the masticatory muscles 1. Classification of the muscles of the head. 2. Masticatory muscles: sources of development, general characteristics. 3. Parts, places of origin and attachment of the masticatory muscle, functions. 4. Temporal muscle: the place of origin and attachment, functions. 5. Medial pterygoid muscle: place of origin and attachment, functions. 6. Places of origin and attachment of the lateral pterygoid muscle, functions. 7. Sources of development, general characteristics and classification of facial muscles. Places of origin, attachment, functions of facial muscles.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Reports (abstracts). Assessment using virtual simulators.

	8. Fascia of the head: masticatory, temporal, buccal-pharyngeal. The pterygomandibular raphe.					
3.3	Functional anatomy muscles of the trunk and extremities. Final class on Myology 1. Back muscles: superficial and deep, general characteristics, functions. 2. Chest muscles: superficial and deep, general characteristics, functions. 3. Diaphragm: topography, structure, functions. 4. Abdominal muscles: general morphofunctional characteristics, the «weak» places of abdominal wall 5. Topography of the anterior abdominal wall: linea alba of the abdomen, the umbilical ring, the inguinal canal. 6. Muscles of upper extremity: general characteristics. 7. Muscles of lower extremity: general characteristics.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense * Colloquium. * Credit.	
2 semester						
	Lectures	9				
4.2 4.3	1.Vessels of the head and neck	1,5				Computer tests
7.4	2.Functional anatomy of the central and peripheral nervous system	1,5				Computer tests
7.5	3.Autonomous nervous system	1,5				Computer tests
9.1 9.2 9.3	4.Functional anatomy of the digestive system	1,5				Computer tests
10.1 10.2	5.Functional anatomy of respiratory system	1,5				Computer tests
11.2 11.3	6.Functional anatomy of the male and female reproductive systems	1,5				Computer tests
	Laboratory lessons		72			

	- General characteristics and functions of the cardiovascular system. Circulatory circles. - The external structure of the heart: surfaces, edges, sulcus. - Chambers of the heart: morphofunctional characteristics of the atria and ventricles. - Right and left atrioventricular valves; aortic valve; pulmonary trunk valve: structure, purpose. - The structure of the heart wall: endocardium, myocardium, epicardium. - The conducting system of the heart. Nodes, atrioventricular bundle: their locations, function. - The structure of the pericardium. Pericardial cavity. - Blood supply to the heart: coronary arteries, their branches and areas of blood supply. Ways of venous blood outflow from the heart. - Aorta: parts, bifurcation site, terminal branches. - Branches of the aortic arch, areas of blood supply. - Parietal and visceral branches of the thoracic aorta. - Parietal and visceral branches of the abdominal aorta. - The names of the main arteries of the lower extremity and the patterns of their location.		structures and other visual aids	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	household tasks and its oral defense. Filling in flash cards. Reports (abstracts).
4.2	Arteries of the head, neck and upper extremity - Right and left common carotid arteries: places of departure, bifurcation, terminal branches. - External carotid artery: branches, areas of blood supply. - Maxillary artery: branches of the maxillary, pterygoid, pterygoid-palatine divisions; areas of blood supply. - Internal carotid artery: parts, terminal branches, areas of blood supply. Functional value of dampers.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Reports (abstracts).

	5. Ophthalmic artery: branches and areas of blood supply. 6. Subclavian artery: the places of departure of the right and left subclavian arteries, their course, division into departments. 7. Branches of the 1st division of the subclavian artery, the area of blood supply. 8. Arterial (Willis) circle of the big brain: meaning, sources of formation. 9. Branches of the 2nd and 3rd divisions of the subclavian artery, the area of blood supply. 10. The main arteries of the upper extremity: names, general principles of location. Places for determining the pulsation of the brachial and radial arteries.					
4.3	Veins. Lymphatic vessels, trunks and ducts 1. Superior vena cava: sources of formation, topography. 2. Azygos and hemiazygos veins and their tributaries. 3. The main veins of the neck. Internal jugular vein: origins, topography. Intracranial tributaries: diploic, emissary, superior and inferior ophthalmic veins. Sinuses of the dura mater. 4. Extracranial tributaries of the internal jugular vein. The course and tributaries of the facial and submandibular veins. Pterygoid plexus. 5. External and anterior jugular veins. Jugular venous arch. 6. Subclavian vein. Principles of the organization of the venous bed of the upper extremity. 7. The inferior vena cava system. Parietal and visceral tributaries. 8. Portal vein of the liver. Functional significance of the portal system.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Reports (abstracts). Assessment using virtual simulators.	

	9. Principles of the organization of the venous bed of the lower extremity.				
	10. Lymphatic trunks and ducts. The sources of formation, the direction of the course, the place of confluence with the venous bed.				
5.1 6.1	Morphofunctional characteristics of secondary lymphoid organs. Lymph nodes of the head and neck. Endocrine glands. Final lesson on «Angiology» 1. Lymph node (capsule, trabeculae, gates, cortex and medulla). 2. Single and group lymphoid nodules of the mucous membranes of the digestive and respiratory systems. 3. Tonsils. 4. Topography of occipital, mastoid, superficial and deep parotid, facial, submandibular, submandibular nodes. Anterior and lateral cervical lymph nodes. 5. Classification of endocrine glands. Morphofunctional characteristics of the pituitary gland, pineal gland, thyroid gland, parathyroid glands, adrenal gland. 6. Diffuse endocrine system.	4	Visualization of anatomical structures in the anatomical preparations and other visual aids	* Completing tasks in the workbook (coloring of the structures, writing the name of structures). * Identify anatomical structure in the bone preparations and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense * Control enquiry on the sections "Angiology" * Colloquium.
7.1	Nervous system structure, general data. Central nervous system. Spinal cord 1. Nervous system: significance for the body, classification according to topographic and anatomical-functional principles. 2. Spinal cord: boundaries, divisions. The external structure of the spinal cord. 3. Anterior and posterior roots, cauda equina. A segment of the spinal cord. 4. The structure of the gray and white matter of the spinal cord. The central canal. 5. The brain: parts, departments.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards.

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	8. Ways of conducting general sensitivity from the head and neck. 9. The pathway of proprioceptive sensitivity from the muscles of the head and temporomandibular joint. 10. Motor conducting pathway to the muscles of the head and neck (cortical-nuclear tract).				
7.3	Meninges. The peripheral nervous system 1. Dura mater, pia mater and arachnoid mater s of the brain and spinal cord. 2. The structure of the dura mater of the brain, localization of outgrowths (processes). 3. Sinuses of the dura mater of the brain. Confluence of sinuses. 4. The arachnoid and pia mater of the brain. Subarachnoid space. Arachnoid granulations. 5. Places of formation and ways of circulation of cerebrospinal fluid. 6. Blood supply to the brain. Arterial circle of the brain. 7. Peripheral nervous system: nerves, nodes, plexuses. 8. Spinal nerve: sources of formation; branches and areas of their distribution. General principles of innervation of skin and skeletal muscles. 9. Cervical plexus: sources of formation; topography of sensory and motor branches; areas of innervation. 10. Phrenic nerve: fibrous composition, topography, areas of innervation.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators.
7.4	Cranial nerves. Anatomy of the oculomotor, trochlear, trigeminal and abducent nerves 1. Cranial nerves: general characteristics; classification. 2. Oculomotor nerve [III]: nuclei, their localization and functional affiliation; the place of nerve exit from the brain and cranial cavity; areas of innervation.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical	Test control, oral enquiry, a report on the practical household tasks and its oral defense.

	3. Trochlear [IV] nerve: nucleus, localization and functional affiliation; place of nerve exit from the brain and cranial cavity; area of innervation. 4. Trigeminal nerve [V]: nuclei, their localization and functional affiliation; motor and sensory roots; place of nerve exit from the brain; trigeminal ganglion. 5. Branches of the trigeminal nerve and the places of their exit from the cranial cavity. 6. Ophthalmic nerve [V1]: branches, areas of innervation. 7. Maxillary nerve [V2]: branches, areas of innervation. 8. Mandibular nerve [V3]: branches, qualitative composition of nerve fibers; areas of innervation. 9. The abducent nerve [VI]: the nucleus, localization and functional affiliation; the place of nerve exit from the brain and the cranial cavity; the area of innervation.				structures on anatomical models and other visual aids	Filling in flash cards.
7.4	Cranial nerves. Anatomy of the facial, glossopharyngeal, vagus, accessory and hypoglossal nerves 1. Facial nerve [VII]: the nucleus of the facial nerve, the nerve exit points from the brain and the cranial cavity; branches, areas of innervation. 2. Intermediate nerve: nuclei, their localization and functional affiliation; geniculate ganglion; branches, qualitative composition of nerve fibers, areas of innervation. 3. Glossopharyngeal nerve [IX]: nuclei, their localization and functional affiliation; places of nerve exit from the brain and cranial cavity; sensitive nodes; branches, qualitative composition of nerve fibers, areas of innervation.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards.	

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	lymph outflow pathways. The eardrum (tympanic membrane): parts, layers. 2. Middle ear: tympanic cavity, auditory ossicles, auditory tube, cells of the mastoid process. Blood supply, innervation, lymph outflow. 3. Inner ear: divisions; structure of the bony and membranous labyrinth. 4. Vestibular-cochlear nerve (VIII): nuclei; places of nerve exit into the cranial cavity and brain. 5. Conducting pathway of auditory and statokinetic analyzers.			structures and other visual aids	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	and its oral defense. Filling in flash cards. Reports (abstracts).
8.2	Structural and functional characteristics of the eye. Final class on «Nervous system. Sense organs» 1. The organ of vision: the general plan of the structure, functions. 2. Tunica fibrosa of the eyeball: parts, structure and functional significance. 3. Tunica vascularis of the eyeball: parts, structure, functions. 4. Internal (smooth) muscles of the eyeball: localization, innervation and blood supply. 5. Retina: parts, structure. 6. Inner core of the eye: aqueous humor of the eye chambers, lens, vitreous body. Aqueous humor formation and outflow pathway. 7. Auxiliary structures of the eye. External muscles of the eyeball: places of origin and attachment; functional significance. 8. Eyelids: structure, functional significance. Conjunctiva. 9. Lacrimal apparatus: lacrimal gland; lacrimal pathways; lacrimal sac; nasolacrimal duct.		4	Visualization anatomical structures of the central and peripheral nervous system, sensory organs in the anatomical preparations.	* Completing tasks in the workbook (coloring of the structures, writing the name of structures). * Demonstration of the structures of the central and peripheral nervous system in anatomical preparations, models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. * Control enquiry on the sections "Nervous system. Sense organs" * Colloquium.

	lymph outflow pathways. The eardrum (tympanic membrane): parts, layers. 2. Middle ear: tympanic cavity, auditory ossicles, auditory tube, cells of the mastoid process. Blood supply, innervation, lymph outflow. 3. Inner ear: divisions; structure of the bony and membranous labyrinth. 4. Vestibular-cochlear nerve (VIII): nuclei; places of nerve exit into the cranial cavity and brain. 5. Conducting pathway of auditory and statokinetic analyzers.			structures and other visual aids	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	and its oral defense. Filling in flash cards. Reports (abstracts).
8.2	Structural and functional characteristics of the eye. Final class on «Nervous system. Sense organs» 1. The organ of vision: the general plan of the structure, functions. 2. Tunica fibrosa of the eyeball: parts, structure and functional significance. 3. Tunica vascularis of the eyeball: parts, structure, functions. 4. Internal (smooth) muscles of the eyeball: localization, innervation and blood supply. 5. Retina: parts, structure. 6. Inner core of the eye: aqueous humor of the eye chambers, lens, vitreous body. Aqueous humor formation and outflow pathway. 7. Auxiliary structures of the eye. External muscles of the eyeball: places of origin and attachment; functional significance. 8. Eyelids: structure, functional significance. Conjunctiva. 9. Lacrimal apparatus: lacrimal gland; lacrimal pathways; lacrimal sac; nasolacrimal duct.	4	Visualization anatomical structures of the central and peripheral nervous system, sensory organs in the anatomical preparations.	* Completing tasks in the workbook (coloring of the structures, writing the name of structures). * Demonstration of the structures of the central and peripheral nervous system in anatomical preparations, models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. * Control enquiry on the sections "Nervous system. Sense organs " * Colloquium.	

	10. Parotid, submandibular, sublingual glands: structure; excretory ducts. Blood supply, innervation, regional lymph nodes.					
9.2	Pharynx, esophagus, stomach, small and large intestine 1. Pharynx: functions, departments; syntropy and skeletotopy; layers of the wall. Communication of the pharynx with the nasal cavity, middle ear, laryngeal cavity and esophagus. Pharyngeal lymphoid ring. 2. Muscles and fascia of the pharynx: places of origin and attachment, functions; pterygomandibular raphe. 3. Blood supply, innervation of the mucous membrane and muscles of the pharynx. Regional lymph nodes of the pharynx. 4. Esophagus: parts, topography, layered structure of the wall. Blood supply, innervation, regional lymph nodes. 5. Stomach: functions, syntopia, skeletotopy, holotopy. 6. Parts of the stomach, openings, layered structure of the wall; blood supply, innervation. Location and functional significance of stomach sphincters. 7. Morphofunctional characteristics of the small intestine; layered structure of the wall. Blood supply, innervation. 8. Duodenum: topography, relation to the peritoneum, parts. Localization and functional significance of the major and minor papillae. 9. Colon: functions, departments, features of the wall structure, blood supply, innervation.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards.	
9.3	Liver. Pancreas. Peritoneum 1. Liver: functions, topography, surfaces, edges, lobes. Fixing structures of liver.	4	Visualization of anatomical formations in the anatomical	Completing workshop assignments	Test control, oral enquiry, a report on the practical	

	2. Sulcus of the visceral surface of the liver and their contents. Porta of liver. Sources of blood supply and liver innervation. 3. Gallbladder: functions, localization, parts. Ways of excretion of bile. 4. Pancreas: functions; topography; structure; excretory ducts; blood supply, innervation. 5. Parietal and visceral peritoneum. The abdominal cavity. The ratio of the abdominal organs to the peritoneum. 6. Derivatives of the peritoneum: mesentery, omentum, ligaments, omental bursa; subdiaphragmatic and subhepatic recesses, lateral canals, mesenteric sinuses. 7. Planes, lines and abdominal areas. Superficial anatomy of the abdomen (projection of organs on the skin). The layered structure of the anterolateral wall of the abdominal cavity. 8. «Weak» places of the anterolateral wall of the abdominal cavity. Inguinal canal: walls, openings, contents.		structures and other visual aids	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	household tasks and its oral defense. Filling in flash cards. Reports (abstracts). Assessment using virtual simulators.
10.1 10.2	General characteristics of the respiratory system. The macroscopic structure of the nose, larynx, trachea. Lungs. Chest cavity 1. General characteristics of the respiratory system: functions, division into upper and lower airways. 2. The external nose, bones and cartilage forming its base. 3. Nasal cavity: nasal passages, communication with the paranasal sinuses and orbit. 4. Paranasal sinuses: development, structure of the maxillary, sphenoid, frontal, ethmoid sinuses.	4	Visualization of anatomical formations in the anatomical structures and other visual aids	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators.

	4. Ureter, bladder: functions, structure. 5. Female urethra: structure, internal and external openings, localization of sphincters. Male urethra: parts, constrictions, bends, localization of sphincters. 6. The general plan of the structure of the male reproductive system. 7. The structure and functions of the testis. Spermatogenesis and sperm elimination pathway (straight tubules, rete testis, efferent ducts, epididymis duct, duct deferens, ejaculatory duct, male urethra). 8. Prostate, seminal vesicle, bulbourethral gland. 9. External male genitalia: penis, scrotum. Functions and general plan of the structure of the female genital system.				anatomical models and other visual aids	
11.3	Functional morphology of female reproductive organs. Final class on «Inner organ systems» 1. Ovary: functions, topography, structure, relation to the peritoneum; blood supply, innervation. 2. Uterus: functions, topography, structure. Ligaments of the uterus, relation to the peritoneum; blood supply, innervation. 3. Fallopian tube: function, structure, relation to the peritoneum. 4. Vagina: syntopia, wall structure. 5. External female genitalia: functions, structure.		4	Visualization of anatomical structures of the inner organs in the anatomical preparations and other visual aids.	* Completing tasks in the workbook (coloring of the structures, writing the name of structures). * Demonstration of the structures of the inner organs in anatomical preparations, models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. * Control enquiry on the sections "Inner organ systems" * Colloquium. * Credit.
3 semester						
	laboratory lessons		36			
12.1.	Development, structure, function, blood supply and innervation of neck muscles. Fascia of the neck. Cellular spaces of the neck		3	Visualization of anatomical formations in the anatomical	Completing workshop assignments	Test control, oral enquiry, a report on the practical

	1. The upper and lower border of the neck. 2. Projection of the following anatomical formations on the skin of the neck: common, external, internal carotid and subclavian arteries; sensitive branches of the cervical plexus; supraclavicular part of the brachial plexus; phrenic nerve; submandibular gland; isthmus of the thyroid gland; internal, external and anterior jugular veins. 3. Dividing the neck into areas; their boundaries. 4. The boundaries of the neck triangles. 5. Superficial, suprahyoid, infrahyoid and deep muscles of neck: places of origin, insertion, function; sources of blood supply and innervation. 6. Deep neck muscles, places of origin, insertion, function; sources of blood supply and innervation			structures and other visual aids Palpation of bone surface landmarks in the human body.	(coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	household tasks and its oral defense. Filling in flash cards.
12.1.	Fascia of the neck. Spaces of the neck 1. Classification of neck fascia according to V. N. Shevkunenko and International anatomical terminology. 2. Places of fixation of fascia on bones, its mutual location. 3. Topography and contents of spaces of the neck, communication with spaces of other areas of the human body.	3		Visualization of anatomical formations in the anatomical structures and other visual aids Palpation of bone surface landmarks in the human body.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids Palpation of surface landmarks of the human body	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators
12.2.	Vessels and nerves of the neck. Spinal nerves. The cervical plexus. Cervical sympathetic trunk 1. Structural components of the main neurovascular bundle of the neck and their relations. 2. Spinal nerves: branches, areas of innervation.	3		Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models	Test control, oral enquiry, a report on the practical household tasks

	3. Sources of formation and topography of the cervical plexus. 4. Areas of branching of the cutaneous branches of the cervical plexus. 5. The course of the diaphragmatic nerve, areas of innervation. 6. Sources of formation of the neck loop, areas of innervation. 7. Cervical sympathetic trunk. Topography, nodes, branches, area of innervation.				and its oral defense. Filling in flash cards. Assessment using virtual simulators
12.2.	Structural and functional characteristics of the lingual (IX), vagus (X), accessory (XI) and sublingual (XII) nerves 1. The nuclei of the glossopharyngeal nerve (IX): names, localization in the brain stem. Branches of the glossopharyngeal nerve: qualitative composition of nerve fibers and anatomical structures that they innervate. 2. Vagus nerve nuclei (X): names, localization in the brain stem. Branches of the cervical vagus nerve: the qualitative composition of nerve fibers and the areas that they innervate. 3. Topography of the superior laryngeal nerve; areas of innervation. 4. Topography of the recurrent laryngeal nerve; areas of innervation. 5. List the organs of the thoracic and abdominal cavities innervated by the vagus nerve. Describe the effect of the vagus nerve on the functions of these organs. 6. The main clinical symptoms of lesion of the vagus nerve and its branches.	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators

7. Nuclei of the accessory nerve (XI): names, localization in the brain stem. Neck muscles innervated by the accessory nerve.						
8. Hypoglossal nerve (XII): localization of the nucleus in the brain stem, the place of exit from the brain and the cranial cavity.						
9. Topography of the trunk of the hypoglossal nerve in the neck; participation in the formation of the ansa cervicalis; innervated structures.						
12.3. Neck organs	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators		
1. Skeletotopy, syntopy, the structure of the pharyngeal wall. Sources of blood supply, lymph outflow pathways, innervation.						
2. Topography, sources of blood supply, lymph outflow pathways, innervation of the cervical esophagus.						
3. Skeletotopy and syntopy of the larynx. Departments of the laryngeal cavity. Features of the structure of the submucosal base of the larynx in children.						
4. Sources of blood supply, lymph outflow pathways, innervation of muscles and laryngeal mucosa.						
1. Skeletotopy, syntopy and the structure of the tracheal wall. Sources of blood supply, lymph outflow pathways, innervation.						
2. Topography of the thyroid gland and parathyroid glands; sources of blood supply, lymph outflow pathways and innervation.						
12.4. The facial part of the head. Bone base and soft tissues of the face	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense.		
1. The areas of the facial part of the head; the proportions of the face and the division into thirds.						
2. The skeleton of the facial part of the head.						
3. Macro- and microscopic features of the structure of the maxilla.						

	4. Macro- and microscopic features of the structure of the mandible. 5. Localization sites of typical fractures of the maxilla and mandible. 6. Morphofunctional characteristics of facial muscles: places of origin and attachment, orientation of fibers, functions: blood supply. 7. Topography of the motor branches of the facial nerve, parotid plexus. Clinical manifestations of facial nerve damage after exiting from the stylomastoid plexus. 8. Sources of facial skin innervation. Projections of the exit points under the skin of the sensory branches of the trigeminal nerve. 9. Sources of blood supply to the face; topography of the facial and superficial temporal arteries. 10. Ways of venous blood outflow from the facial part of the head; venous anastomoses and their significance in the spread of infection. 11. Regional lymph nodes of the head. Ways of lymph outflow from the facial part of the head.			Filling in flash cards. Assessment using virtual simulators
12.5.	Orbit and relative structure. Nasal region. Topography of paranasal sinuses. 1. Anatomy of bony orbit. Orbital foramina and openings; their contents 2. Eyeball anatomy: fibrous, vascular and inner layers 3. Optic nerve (CN II): anatomy, visual tract 4. Transparent structures of the eye: lens and vitreous body. Eyeball chambers. Aqueous humor production and drainage 5. Extra-ocular muscles: origins and insertions; functions; blood supply and innervation	3 Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators

	6. Eyelid anatomy: layers; blood supply and innervation. 7. Lacrimal apparatus: anatomy of the lacrimal gland, lake, papilla, and sac; the nasolacrimal duct 8. Accessory visual structures: fascial sheath of eyeball; episcleral space; retrobulbar fat and periorbital 9. Cranial nerves of orbit: symptoms of nerve injuries 10. Boundaries of the nasal region and anatomy of the external part of the nose: bone and cartilage; soft tissues; blood supply and drainage; innervation. 11. Lateral, medial, superior and inferior walls of the nasal cavity: bony components. 12. Nasal conches and meatuses: location and communications. Nasolacrimal canal 13. Nasal mucosa: blood supply and lymphatic drainage. Kiesselbach's plexus: anatomical localization and significance 14. Nasal mucosa: general sensory, parasympathetic and sympathetic innervation. Nasal olfactory region: localization; smell pathway 15. Paranasal sinuses: development; anatomical location; connections and clinical significance; neurovascular supply Relationship between the maxillary sinus floor and maxillary posterior teeth roots				
12.6	Cerebral department of the head. Topography of the base and calvarium of the skull. Fibrous and cartilage connections of cranium 1. The border of the calvarium and base and skull. 2. Bones of the cerebral skull. 3. The external base of the skull; foramina and canals, their contents.	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense.

	4. Cranial fossae: borders, openings, canals and their contents. 5. Temporary synchondrosis of the skull. 6. The calvarium of the skull; features of the development and structure of bones. 7. Sutures of the skull. 8. Skull shapes: variants and anomalies				Filling in flash cards. Assessment using virtual simulators
12.7	Anatomy of the oral cavity. The floor of the oral cavity. Tongue 1. Boundaries of the oral vestibule. Lips: layers; blood vessels, sensory and motor nerve supply to the skin, muscles and mucous membrane; lymphatic drainage of the upper and lower lips 2. Boundaries of the oral cavity proper: layers of the palate (hard and soft); blood vessels and nerve supply to the mucous membrane and muscles of the soft palate 3. Structural components of the periodontium: gingiva (parts, gingival papilla, gingival groove), inserting periodontium; cementum; and alveolar bone 4. Topography of the palatal tonsil: tonsillar capsule and fossa; paratonsillar space 5. The floor of the oral cavity proper: sublingual caruncle and fold; frenulum of tongue 6. Muscles of the floor of the oral cavity proper: overview of the structure and actions; blood supply and innervations 7. Tongue: anterior and posterior part; midline and terminal sulcus; lingual tonsil 8. Foramen caecum: location; relationship to the thyroglossal duct cyst and fistula	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators

	9. Muscles of the tongue: intrinsic and extrinsic groups; origin, insertion, and action; innervation and blood supply 10. Nerve and blood supply, venous and lymphatic drainage of the tongue.					
12.7	Anatomical structure and functions of masseteric muscles. TMJ. Blood supply, innervation 1. Morphofunctional characteristics of the temporomandibular joint (TMJ): articular surfaces; the articular disc is its fixing apparatus; places of attachment of the joint capsule and its ligament. 2. Mouth opening phases 3. Chorda tympani: qualitative composition of nerve fibers, chorda tympani canaliculi; clinical manifestation of compression of the chorda tympany in TMJ dysfunction. 4.Temporal muscle: origin and insertion, functions. Temporal fascia. 5.Masseter muscle: superficial and deep parts, origin and insertion, functions. Masseteric fascia. 6.Medial and lateral pterygoid muscles: origin and insertion, functions.			Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators
12.8	Anatomy of teeth. The overall anatomy of permanent teeth Blood supply, innervation 1. The number and groups of teeth of permanent bite. Options for recording formulas of permanent teeth. 2. Parts of the tooth: crown, neck, root. Definition of the concepts «clinical crown» and «clinical root». How does their ratio change during the development and functioning of the tooth? 3. The crown surfaces of the anterior and lateral teeth.	3		Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Test control, oral enquiry, a report on the practical household tasks and its oral defense. Filling in flash cards. Assessment using virtual simulators

12.8.	4. Elements of the crown relief: bumps, scallops, rollers, belt, cracks, pits. 5. The equator of the tooth and its value. 6. The number of roots in teeth of different groups. The name of the roots in multi-rooted teeth. 7. The structure of the root in a fully formed tooth, variants of the structure of the root canal. 8. Dividing the crown and root of the tooth into thirds. 9. The relationship of the roots of permanent teeth with the lower wall of the maxillary sinus, the nasal cavity, the canal of the mandible. 10. The structure and contents of the tooth cavity. 11. Determination of the signs of the tooth belonging to the right or left half of the dental arch. 12. The timing of eruption of permanent teeth. 13. Blood supply and lymph outflow routes from the teeth of the maxillae and mandible. 14. Innervation of teeth and gums of the maxillae. 15. Innervation of the teeth and gums of the mandible.	3	Visualization of anatomical structures on anatomical models and other visual aids.	Identification of anatomical structures on anatomical models and other visual aids.	Writing and presenting an abstract; presentation of the report; Exam*
	Individual variability of the structure of the dental system 1. The thickness of the walls of the front teeth. Safe area. 2. The thickness of the walls of the lateral teeth. Safe area. 3. The dependence of the shape of the teeth on the configuration of the face. 4. The color of the teeth. Anomalies in the color of teeth. 5. Resorption of the roots of primary teeth. 6. The timing of eruption and formation of the roots of permanent teeth.				

	7. Features of the structure of the alveolar process in children. 8. Congenital cleft of the upper lip and palate. 9. Anatomical and topographic features of the middle zone of the face. Traumatic injuries of the middle zone of the face. 10. Features of the structure of the maxillofacial region of the child. 11. Age-related anatomy of the tooth cavity. Deltoid branching of the root canal. Additional root canals. 12. Some aspects of the evolutionary theory of dental development from the point of view of a dentist. 13. Age-related anatomy of the facial skull. 14. Dental manifestations of hereditary diseases and syndromes. 15. Anesthesia methods used in dentistry. 16. Modern methods of visualization of anatomical structures in dentistry.					
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LIST OF PRACTICAL SKILLS

Name of practical skills	Form of practical skills control
Visualization of anatomical structures on anatomical models and other visual aids.	Completing workshop assignments (coloring structures, captions) Identification of anatomical structures on anatomical models and other visual aids
Palpation of surface landmarks of the human body (bone, muscle and others) to determine the boundaries of areas, projections of organs, vessels, nerves.	Palpation of surface landmarks of the human body