Thematic plan of seminar-type classes
in discipline «Anatomy» for students of 2025 year of admission
under the educational programme General Medicine 31.05.01 (specialist's),
form of study full-time for the 2025-2026 academic year

№	Topic	Hours
	I semester	
1	**Introduction to anatomy. Axes and planes. Structure of vertebrae, sternum, ribs. Vertebral column. Thorax.[1]**	2
	The subject and content of anatomy. Relations with the biological disciplines. The importance of anatomy for clinical disciplines and medical practice. Methods of anatomical research. Axes and planes. Lines on the surface of the body, clinical significance.[2]Vertebrae: development, structure of vertebrae in various parts of the spine. Ribs and sternum, structure[2]	2
2	**Bones of upper limbs [1]Bones of lower limbs [1]**	2
	Upper limbs: shoulder girdle (scapula, clavicula). Upper limbs: free upper limb. The bones of the shoulder, forearm and hand.[2]Bones of the pelvic girdle: iliac bone, ischium, pubic bone. Pelvis as a whole. The distances and diameters of the pelvis. Clinical relevance. Lower limbs: bones of the thigh, lower leg, foot.[2]	2
3	**The skull: division in department. Unpaired bones of the cerebral skull: frontal, occipital, sphenoid, ethmoid bones[1]**	2
	The skull as a part of skeleton: parts. Unpaired bones of the cerebral skull: their parts, details of structure. Clinical significance of the canals, grooves and holes.[2]	2
4	**The paired bones of the cerebral skull: parietal, temporal bones. Canals of temporal bone. [1]**	2
	The temporal bone: its parts, details of the structure. Canals of temporal bone: inlet and outlet of canals, contents. Clinical significance of the canals. The temporal bone as an organ of hearing and balance. Parietal bone: its parts, details (part 2)[2]	2
5	**Anatomy of the facial bones.[1]**	2
	Topography of the facial bones, its parts. The points on the jaws for insertion of masticatory muscles.[2]	2
6	**Skull as a whole. Cranial base: internal, external, anterior, middle and posterior cranial fossas. Orifices and canals of the cranial base. [1]Bones of the orbit, nasal cavity, oral cavity. The temporal fossa, the infratemporal fossa, pterygopalatine fossa.[1]**	2
	Skull base borders. Internal cranial base: borders and openings of the anterior, middle and posterior cranial fossa. External cranial base: location of holes and canals.[2]Orbit: borders, walls, anatomical relations. Pathways into the orbit. The nasal cavity: borders, walls, anatomical relations. Paranasal sinuses. Clinical relevance. Hard palate: anatomy, function and borders.[2]	2
7	**General arthrology. Joints of the axial skeleton.[1]**	2
	General arthrology. Joints of the axial skeleton. Intervertebral junctions. Costovertebral and sternocostal joints. Sutures of the skull. Temporomandibular joint, atlanto-occipital and atlanto-axial joints. [2]	2
8	**Joints of the shoulder girdle and upper limb.[1]Joints of the pelvic girdle and lower limb.[1]**	2
	Joints of the shoulder girdle: sternoclavicular and acromioclavicular joints, scapular ligaments. Joints of the upper limb: shoulder joint, elbow joint, radiocarpal joint. Joints of the hand. [2]Pelvic girdle: formation, functions.	2

	Sacroiliac joint. Pubic symphysis. Joints of the lower limb: hip joint, knee joint, ankle joint. Joints of the foot.[2]	
9	**General information about muscular system. Muscles and fascias of the back and thorax.**	2
	General plan of the muscular system. Classification of the muscles. The muscles of the back and chest: the structure, topography, functions. The structure and attachment points of the fascias of the back and chest. Chest triangles. Lumbar triangle. [2]	2
10	**Muscles of abdomen. Diaphragm: structure, topography, functions.[1]**	2
	The muscles of the abdomen: the structure, topography, functions. The structure and attachment points of the abdominal fascias. Rectus sheath, inguinal ligament, inguinal canal. Topography of possible places for hernias (white line of the abdomen, umbilical ring, inguinal canal, diaphragm triangles).[2]	2
11	**Muscles and fascias of the head and neck. Interfascial spaces of the head.[1]**	2
	Classification of the head and neck muscles. The structure, topography and functions the muscles of facial expression. Chewing muscles: topography and functions. Anatomy of the fascias and fascial spaces of the head. Classification, structure, topography and functions of the neck muscles. Anatomy of the fasciae and fascial spaces of the neck. Triangles of the neck: anatomy, borders, contents. Cross-sectional anatomy of the neck (by V.N. Shevkunenko). International classification of the fascias (PNA).[2]	2
12	**Muscles of the shoulder girdle and arm. [1]Muscles and fascias of the forearm and hand.[1]**	2
	Muscles of the shoulder girdle: their structure, topography, functions. Muscles of the arm (shoulder): structure, topography, functions. Fascias of the shoulder girdle, shoulder. [2]Muscles of the forearm: their structure, topography, functions Fascias of the forearm and hand. Fibro-osseous canals of the hand. Palmar aponeurosis.[2]	2
13	**Muscles and fascias of the lower limb.[1]**	2
	Muscles of the pelvic girdle: structure, topography, functions. Muscles and fascias of the thigh, lower leg, foot: structure, topography, functions. Fibro-osseous canals of the foot. Clinical correlations. [2]	2
14	**Concluding lesson for 1st semester[1]**	2
	Checking of lecture materials[1]	2
	Total	**56**
	II semester	
1	**Overview of the alimentary system. The oral cavity: lips, vestibule, palate, tongue, major salivary glands, teeth.[1]** The structure and function of the oral cavity: lips, cheek, vestibule of the mouth, hard and soft palate. Tongue (muscles of the tongue, papillae), development, structure, function. Large salivary glands: parotid, sublingual, submandibular (topography, structure, excretory ducts). [2]	2
	Teeth: classification, structure, individual and group signs. Dental formulas. Development of the teeth. Time of teething. [2]	2
2	**The hollow organs of alimentary system[1]** The structure, topography and functions of the pharynx. Esophagus: topography, structure, functions. Stomach: topography, structure, function.[2]	2
	Small intestine: its departments, differences in their topography, structure,	2

	function. Large intestine: its departments, differences in their topography, structure, function. Differences between the small and large intestine[2]	
3	**Pancreas, liver, peritoneum.[1]** Pancreas: structure, function, topography, excretory ducts. Liver: structure, function, topography, excretory duct, segments. Structural and functional units of the liver and pancreas.[2]	2
	Peritoneum and peritoneal cavity: anatomy, topography, functions. Relationship with the abdominal organs.. Subdivisions of the peritoneal cavity. Topography of the peritoneum: course (scheme of the cross section and sagittal plane section), channels, sinuses, bags, ligaments, folds, pockets[2]	2
4	**Respiratory system. Mediastenium[1]**	2
	External nose, nasal cavity. Larynx: topography, structure. Trachea: topography, structure. Main, lobar and segmental bronchi. Lungs, their lobes, segments, lobules. The structure of the acinus. Pleura and mediastinal organs: structure, location and functions.[2]	2
5	**Urinary system.[1]**	2
	Kidneys: topography, structure, function. Ureters, bladder: structure, function. Male and female urethra.[2]	2
6	**Male genital organs[1] Female genital organs. Perineum.[1]**	2
	Overview of the male genital organs. Classification of the male genital organs. Male genital organs: internal and external, structure, location and function, age-related changes.[2] Overview of the female reproductive system. Female genital organs: internal (ovary, fallopian tubes, uterus, vagina), structure, location and function, age-related changes. [2]Female genital organs: external (female genital area), their structure, location and function, age characteristics. Perineum: muscles and fascias.[2]	2
7	**Cardiovascular system. The heart. [1]**	2
	Vessels of the large and small circle of blood circulation (general characteristics).[2]Heart: topography, structure. Blood circulation of the heart.[2]	2
8	**The common and external carotid arteries [1] Internal jugular vein, subcutaneous veins of the neck. [1]**	2
	Brachiocephalic trunk: topography. Common carotid artery: topography, branches. External carotid artery, its topography, branches and supplied areas.[2] Veins of the head and neck. Internal and external jugular veins: extracranial and intracranial tributaries, topography of internal jugular vein. Anterior and external jugular veins.[2]	2
9	**The internal carotid artery. The cerebral arterial circle. Thoracic aorta. The subclavian artery. Axillary arteries. [1]The superior vena cava, brachiocephalic veins. Axillary vein, subclavian vein. Veins of the thorax.[1]**	2
	Internal carotid artery, topography, branches and supplied areas. Anastomoses of the internal carotid artery. Arterial (Willis) circle of the brain.[2]Parietal and visceral branches of the thoracic aorta. Features of their branching and anastomoses. The subclavian artery: topography. Axillary artery: topography, branches, areas of blood supply, anastomoses. Topography of the superior vena cava: sources of formation, course, adjacent organs and vessels. Sources of the formation of azygos and semi-unpaired veins.[2]	2
10	**The arteries of upper limb. Veins of the upper limb. [1]**	2
	Brachial artery: topography, branches, areas of blood supply, anastomoses. Arteries of the forearm and hand: topography, branches, areas of blood supply, anastomoses. Veins of the upper limb.[2]	2
11	**Abdominal aorta. The inferior vena cava: parietal and visceral tributaries. Portal vein: topography, tributaries.[1]**	2

	Parietal and visceral (paired and unpaired) branches of the abdominal aorta. Features of their branching and anastomoses. [2] Portal vein, areas of venous dranage, topography. Anastomoses: cavacaval, portocaval. Features of the fetal circulation. The inferior vena cava system. Topography of the inferior vena cava: sources of formation, course, adjacent organs and vessels. Tributaries of the inferior vena cava. Parietal and visceral tributaries. [2]	2
12	**Common, external, internal iliac arteries. The arteries of lower limb. Pelvic veins. Veins of the lower limb. Porto-caval and cava-caval anastomoses.[1]**	2
	Iternal iliac artery: topography, branches, areas of blood supply. External iliac artery: topography, branches, areas of their blood supply. Femoral artery: topography, course of its branches and areas of blood supply. Popliteal artery, its topography and branches. Blood supply to the knee joint. Arteries of the lower leg and foot: topography, branches and areas of blood supply. Pelvic veins: topography, sources of formation, anastomoses. Veins of the lower limb.[2]	2
13	**The lymphoid system: lymphatic trunks and ducts, lymph nodes [1]** Thoracic duct, its formation, topography, options for confluence into the venous bed. Right lymphatic duct, its formation, topography, place of confluence into the venous bed. The lymph node as an organ (structure, function). Classification of lymph nodes. [2]	2
	Anatomy and topography of the lymphatic vessels and regional lymph nodes of the upper limb. Anatomy and topography of the lymphatic vessels and regional lymph nodes of the lower limb. Lymph drainage pathways from the breast; topography of its regional lymph nodes. The lymphatic bed of the lungs and the topography of the lymph nodes of the chest cavity. Anatomy and topography of lymphatic vessels and regional lymph nodes of the abdominal and pelvic organs. [2]	2
14	**Concluding lesson for 2nd semester[1]**	2
	Checking of lecture materials[1]	2
	Total	**56**
	III semester	
1	**Overview of nervous system. Spinal cord. Blood supply of the spinal cord [1]**	2
	The structure of the neuron. Reflex arc (simple and complex). Spinal cord: topography, location in the spinal canal. Spinal cord: external structure, meninges, blood supply. Spinal cord: internal structure, topography of gray and white matter. The nuclei of the gray matter of the spinal cord, functions. Localization of the neural pathways in the white matter of the spinal cord (scheme)[2]	2
2	**Forebrain: lobes, grooves, gyrus of the cortex. Cortical areas and their functions. Analyzer of first and second signaling system. [1]**	2
	Hemispheres, topography of the lobes. Sulcus and gyrus of the lateral, medial and inferior surfaces of cerebral hemispheres: topography, functions. The structure of the cerebral cortex.[2]	2
3	**Forebrain: internal structure, ganglions, commissures, lateral ventricles. [1]**	2
	Anatomy, topography and functions of the basal nuclei. White matter of the brain. Association, commissural and projection fibers. Commisures of the brain. Lateral ventricles.[2]	2
4	**Diencephalon. III ventricle. Midbrain. [1]**	2
	Diencephalon: topography, parts. Internal structures of the diencephalon. III ventricle, topography, walls, holes. Midbrain: topography, parts, midbrain cavity. Internal structure of the midbrain (scheme) and functions. Cerebral aqueduct. Thalamus, parts. Hypothalamus, topography.[2]	2

5	**The rhombencephalon: pons, medulla oblongata, cerebellum: nuclei, relations to the other parts of the brain.**	2
	Pons, parts, internal structure. Medulla oblongata: parts, internal structure. Topography of gray and white matter (scheme). Cerebellum: parts, gray and white matter, cerebellar peduncles.	2
6	**IV ventricle. Circulation and drainage of the cerebrospinal fluid. Rhomboid fossa[1]**	2
	IV ventricle: walls, connections. Isthmus of the rhombencephalon. Rhomboid fossa: relief. Projection of the cranial nerves nuclei. Orifices of the IV ventricle.[2]	2
7	**The conduction pathways of the brain and the spinal cord. Afferent pathways.[1]**	2
	Classification of the conduction pathways of the brain and the spinal cord: association, commissural and projection pathways. Afferent pathways. [2]	2
8	**The conduction pathways of the brain and the spinal cord. Efferent pathways.[1]**	2
	Classification of the conduction pathways of the brain and the spinal cord: association, commissural and projection pathways. Efferent pathways. [2]	2
9	**Concluding lesson: "CNS" [1]**	2
	Checking of lecture materials[2]	2
10	**Peripheral nervous system: anatomy of the I, II, III, IV, VI cranial nerves. Anatomy of the eye.[1]**	2
	Developments and structure of the cranial nerves. Concept 0 pair of cranial nerves. I pair of cranial nerves: location on the brain, exit from the skull. The olfactory tract. III, IV, VI pairs of cranial nerves: location on the brain stem, exits from the skull, nuclei, areas of innervations. Anatomy of the eye. II pair of cranial nerves: exit from the orbit, parts. The optic tract.[2]	2
11	**Anatomy of the V, VII cranial nerves. [1]**	
	Trigeminal nerve: its nuclei, ganglion, trunk, branches, areas of innervation. Facial nerve: topography, nuclei, innervation zone.[2]	2
12	**Anatomy of the VIII - XII cranial nerves. Anatomy of the ear. Vestubulocohlear apparatus.[1]**	2
	Cranial nerves VIII-XII: topography, nuclei, branches, zone of innervation. Anatomy of the ear: external, middle, internal. Auditory pathway. XI, XII pairs of cranial nerves: topography, branches, zone of innervation.[2]	2
13	**Spinal nerves. Cervical and brachial plexuses.[1]**	2
	Spinal nerve formation. Their branches. Segmental distribution of the spinal nerves. Cervical plexus: formation; motor, sensitive, mixed branches. Brachial plexus: formation. Supraclavicular part: topography, branches. Subclavian part: topography, bundles. Nerves of the upper limbs.	2
14	**Thoracic nerves. Lumbar, sacral and coccygeal plexuses.[1]**	2
	Thoracic nerves: origin, course and function. Intercostal nerves. Lumbar, sacral and coccygeal plexuses: topography, areas of innervation. Nerves of the lower limbs. [2]	2
15	**Vegetative nervous system[1]**	2
	Central and peripheral parts of the autonomic nervous system. Parasympathetic nervous system. Nuclei of the cranial parasympathetic nervous system.[2] Sympathetic parts of the autonomic nervous system. Nerves of the sympathetic trunk. Innervation of the internal organs.[2]	2
16	**Concluding lesson: «PNS, VNS»[1]**	2

	Checking of lecture materials[1]	2
	Total for 3rd semester	**64**
	Exam	56
	Total	232

Verified on the chair meeting №20 «24» june 2025г.

Head of the chair of Human Anatomy _____ S.A. Kalashnikova