

MINISTRY OF HEALTH OF UKRAINE  
KHARKIV NATIONAL MEDICAL UNIVERSITY

Department of Human Anatomy

Academic year 2021-2022

**SYLLABUS OF THE COURSE**

«Improving knowledge of anatomy, medical biology, histology  
as preparation for USLE certification»

(elective discipline)

(name of educational component)

Normative or selective educational component \_\_\_\_\_ selective \_\_\_\_\_

The format of the educational component \_\_\_\_\_ full-time \_\_\_\_  
(full-time; mixed; remote)

Field of knowledge \_\_\_\_\_ 22 "Health care" \_\_\_\_\_  
(code and name of the field of knowledge)

Specialty \_\_\_\_\_ 222 "Medicine", the second (master's) level \_\_\_\_\_  
(code and name of the specialty)

Educational and professional program (educational and scientific program) \_\_ "Medicine" \_\_\_\_

Course \_\_ Third \_\_\_\_\_

The syllabus of the discipline was considered

at a meeting of the Department of Human

Anatomy

Protocol from

“\_30\_” August 2021 №\_13\_

Head of Department



\_\_\_\_\_ prof. Vovk O.Yu.

(signature) (surname and initials)

Approved by the methodical commission of

KhNMU on general pre-professional training

Protocol from

“\_31\_” August 2021 № 1

Chairman of the methodical commission of

KhNMU on general pre-professional training



\_\_\_\_\_ prof. Vovk O.Yu. (signature)

(surname and initials)

**SILABUS DEVELOPERS:**

Head of the Department of Human Anatomy, Doctor of Medicine, Professor O.Yu.

Vovk,

Associate Professor of Human Anatomy, Ph.D. V.B. Ikramov,

Associate Professor of Human Anatomy, Ph.D. O.O. Shevtsov

### Data on the teacher who teaches the discipline

Last name, first name, patronymic	Shevtsov Olexander Olexandrovich
Scientific degree	Candidate of Medical Sciences
Academic status	Associate Professor
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Corporate mail	<a href="mailto:oo.shevtsov@knu.edu.ua">oo.shevtsov@knu.edu.ua</a>
Timetable	According to the schedule for the I-II semester

Professional interests, links to the teacher's profile (on the website of the university, department, in the Moodle system, etc. : <http://distance.knu.edu.ua/user/profile.php?id=10550>

**Contact phone and E-mail of the department:**. tel.(057) 700-36-26,, [knu\\_anatomy@ukr.net](mailto:knu_anatomy@ukr.net)

**Eye consultations:** schedule and venue according to the schedule of the department.

**Online consultations:** schedule and venue by prior arrangement with the teacher.

**Location:** classes are held at: 12 Nezalezhnosti Avenue

## INTRODUCTION

**The syllabus of the discipline**«Improving knowledge of anatomy, medical biology, histology in preparation for EDKI certification»Compiled in accordance with the Educational and Professional Program" Medicine "and the draft Standard of Higher Education of Ukraine (hereinafter - the Standard), the second (master's) level, field of knowledge 22" Health ", specialty 222" Medicine ".

### **Description of the discipline (abstract).**

Passing the course "Improving knowledge of anatomy, medical biology, histology in preparation for EDKI certification", For future doctors, is a classic model of university course adapted to the needs of medicine, which provides for the improvement of each knowledge seeker in the world of natural science ideas about the structure and function of the human body as a whole, the ability to use acquired knowledge in further study of other basic medical sciences. and in the practice of the doctor and as a preparation for the certification of EDKI. Inclusion in the course of teaching elective subjects promotes the development of cognitive activity and improvement of knowledge in applicants with the subsequent intensification of independent work in the process of mastering the material of the variable course.

**The subject**studying the course "Improvement of knowledge in anatomy, medical biology, histology in preparation for the certification of EDKI" is the science of the shape, structure, origin and development of organs, systems and the human body as a whole.

**Prerequisites:** is based on the study of medical biology, human anatomy, histology, cytology and embryology, biophysics, Latin, ethics, philosophy, ecology and integrates with these disciplines;

**Postrequisites:** lays the foundations for the study of normal and pathological physiology, pathological anatomy, operative surgery and topographic anatomy, deontology, propaedeutics of clinical disciplines and the formation of skills to apply knowledge in the further study of all clinical disciplines and in future professional activities.

**Link to the discipline page in MOODLE**

<http://31.128.79.157:8083/course/view.php?id=496>

## 1. PURPOSE AND TASKS OF STUDYING THE COURSE

**1.1. The purpose of studying the discipline**is the acquisition by each applicant of knowledge of anatomy in the world of natural science ideas about the structure and function of the human body as a whole, the ability to use the acquired knowledge in further study of other basic sciences of medicine, and in the practice of medicine.

The purpose of studying human anatomy - the ultimate goals are set on the basis of OPP training of a doctor in the specialty in accordance with the block of its content module (natural science

training) and is the basis for building the content of the discipline. The description of goals is formulated through skills in the form of target tasks (actions). On the basis of the ultimate goals for each module or content module, specific goals are formulated in the form of certain skills (actions), target tasks that ensure the achievement of the ultimate goal of the discipline.

**The ultimate goals of the discipline:**

- *Analyze information about the structure of the human body, its constituent systems, organs and tissues;*
- *To determine the topographic and anatomical relationships of human organs and systems;*
- *To interpret the patterns of prenatal and early postnatal development of human organs, variants of organ variability, malformations;*
- *Interpret sexual, age and individual features of the structure of the human body;*
- *To predict the interdependence and unity of structures and functions of human organs and their variability under the influence of environmental factors;*
- *Determine the impact of social conditions and work on the development and structure of the human body;*
- *Demonstrate mastery morally-ethical principles of attitude to a living person and his body as an object of anatomical and clinical research.*

**1.2. The main tasks of studying the discipline "Human anatomy"** as a science is a systematic approach to the description of the shape, structure of organs, position (topography) of parts and organs of the body in unity with the functions performed, taking into account age, gender and individual characteristics.

**1.3. Competences and learning outcomes**, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the OPP and Standard).

**1.3.1.** The study of the discipline provides the acquisition of competencies by applicants:

- **integrated:** ability to solve typical and complex specialized tasks and practical problems in the process of training for future professional activity in the field of health care, or in the process of training, which involves research, innovation and is characterized by complexity and uncertainty of conditions and requirements.

- **general:**

1. Ability to apply knowledge in practical situations. profession
2. Knowledge and understanding of the subject area and understanding of the profession. situations.
3. Ability to exercise self-regulation, lead a healthy lifestyle, ability to adapt and act in a new situation.

4. Ability to choose a communication strategy; ability to work in a team; skills between personal interaction.
  5. Ability to communicate in the native language both orally and in writing; ability to communicate in a second language.
  6. Skills in the use of information and communication technologies.
  7. Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained.
  8. Ability to evaluate and ensure the quality of work performed.
  9. Definiteness and persistence in terms of tasks and responsibilities.
  10. Ability to act in a socially responsible and social consciousness.
  11. The desire to preserve the environment.
- **special** (professional, subject): the ability to evaluate the results of laboratory and instrumental research

**1.3.2.** The study of the discipline ensures the acquisition by applicants of the following program learning outcomes:

1. Acquisition by a person of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary for the performance of typical professional tasks related to his / her activity in the medical field in the relevant position.
2. Knowledge of human psychophysiological features, human health, health support, disease prevention, human treatment, public health.
3. Evaluation of survey results, physical examination, laboratory and instrumental research data.
4. Formation of a specialist with appropriate personal qualities, who adheres to the code of ethics of the doctor.

**1.3.3.** The study of the discipline provides the acquisition of the following social skills (Soft skills):

- communication;
- literate written and oral language;
- ability to speak in public;
- analytical mind;
- ability to see and solve a problem;
- good memory;
- creativity;
- result orientation;
- persistence;
- stress resistance;
- willingness to perform routine work;
- ability to make decisions;

- responsibility.

## 2. INFORMATION SCOPE OF THE COURSE

### 2.1. Description of the discipline

On the course takes 60 hours, 2.0 ECTS credits.

Name of indicators	Field of knowledge, specialty, educational and qualification level	Characteristics of the discipline	
		full-time education	
Number of credits - 2.0	Branch of knowledge 22 - "Health care"	Selective	
	Training direction "Medicine"		
the total number of hours - 60	Specialty: 222 - "Medicine"	Year of preparation:	
		3	
		Semester	
		5/6	
		Lectures	
Hours for full-time study: classroom - 14 (23%) of independent work of the applicant - 46 (77%)	Educational and qualification level: second (master's)	0	
		Practical training	
		14	
		Individual work	
		46	
		type of control	
Test			

#### 2.2.1. LECTURES

Does not have

#### 2.2.2. SEMINAR CLASSES

Does not have

### 2.2.3. PRACTICAL TRAINING

№ 3 · II ·	Name the topics	Nu mbe r of hour s	Teaching methods	Forms of control
	1	3	4	5
1.	Osteology. Syndesmology. Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	Explanation, consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX.	Oral interview, computer testing.
2.	Myology. Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	- // - // -	- // - // -
3.	Splanchnology I. Functional anatomy of digestive organs. Peritoneal anatomy. Functional anatomy of the respiratory system. Functional anatomy of the cardiovascular system Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	- // - // -	- // - // -
4.	Splanchnology II. General anatomy of the endocrine and immune systems. General and functional anatomy of the urinary organs. General and functional anatomy of the male and female genital systems. Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	- // - // -	- // - // -
5.	Anatomy of the central nervous system. Sense organs and cranial nerves. Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	- // - // -	- // - // -
6.	Anatomy of the peripheral nervous system (PNS). Anatomy of the vascular system. Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing.	2	- // - // -	- // - // -
7.	Anatomy of the lymphatic system. Anatomy of the autonomic nervous system (ANS). Consideration and discussion of typical tasks for the licensing exam "STEP-1", IFOM and USMLE RX. Computer testing. Test.	2	- // - // -	- // - // -
	TOTAL:	14		

### 2.2.4. LABORATORY CLASSES



Does not have

### 2.2.5. INDIVIDUAL WORK

№	Topic	Number of hours	Teaching methods	Forms of control
1.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Anatomy of the musculoskeletal system".	6	Passing test tasks as components of EDKI and USMLE RX on the topic	PC, software in accordance with KTP.
2.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Myology".	6	- // - // -	- // - // -
3.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Splanchnology. Functional anatomy of the digestive system. Peritoneal anatomy. Functional anatomy of the respiratory system. Functional anatomy of the cardiovascular system. General anatomy of the endocrine and immune systems. General and functional anatomy of the urinary organs. General and functional anatomy of the male and female reproductive systems.	6	- // - // -	- // - // -
4.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Splanchnology. General anatomy of the endocrine and immune systems. General and functional anatomy of the urinary organs. General and functional anatomy of the male and female reproductive systems.	7	- // - // -	- // - // -
5.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Anatomy of the central nervous system. Sensory organs and cranial nerves.	7	- // - // -	- // - // -
6.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic:	7	- // - // -	- // - // -

	"Anatomy of the peripheral nervous system (PNS). Anatomy of the vascular system. Anatomy of the lymphatic system. Anatomy of the autonomic nervous system (ANS) ".			
7.	Preparation for passing test tasks as components of EDKI and USMLE RX on the topic: "Anatomy of the lymphatic system. Anatomy of the autonomic nervous system (ANS) ".	7	- // - // -	- // - // -
	Together	46		

### 3. EVALUATION CRITERIA

**3.1.** Evaluation of the success of education of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU"

#### Methods of control measures

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. At each practical lesson, the applicant answers the tests on the topic of practical training. Answers questions on the material of the current topic and questions on the material of previous topics, knowledge of which is necessary to understand the current topic.

#### Criteria for assessing the current educational activities of the applicant.

At each practical lesson, the teacher assesses the knowledge of each applicant on a four-point scale. The price of assessment in each module is different and is determined by the number of topics in the module. The weight of each topic within one module should be the same.

Annex 4  
to item 3.2.2 of the  
Instruction,  
approved  
by order of KhNMU  
from 21.08.2021 № 181

Table 4

#### Criteria for evaluating the results of educational activities students in disciplines

Rating	Evaluation criteria
"Perfectly"	The student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use the acquired knowledge and skills for decision-making in unusual situations,

	convincingly argues answers, independently reveals own talents and inclinations.
"Very good"	The student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standard situations, independently corrects mistakes, the number of which is insignificant
"Fine"	The student is able to compare, summarize, systematize information under the guidance of the teacher; as a whole to apply it independently in practice; control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions
"Satisfactorily"	The student reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic principles; with the help of the teacher can analyze the educational material, correct mistakes, among which there are a significant number of significant ones
"Enough"	The student has the study material at a level higher than the initial, a significant part of it is reproduced at the reproductive level
"Unsatisfactorily" with the possibility of re-assembling the semester control	The student has the material at the level of individual fragments that make up a small part of the study material
"Unsatisfactorily" with mandatory re-examination of the credit	The student has the material at the level of elementary recognition and reproduction of individual facts, elements, objects
In particular, criteria for assessing practical skills in disciplines	
"Perfectly"	The student corresponds to a high (creative) level of competence: the student shows special creative abilities, without mistakes independently demonstrates the implementation of practical skills and has systematic theoretical knowledge (knows the methods of practical skills, indications and contraindications, possible complications, etc.) and has the ability to accept solutions in non-standard situations.
"Fine"	The student independently demonstrates the implementation of practical skills, admitting some inaccuracies, which he quickly corrects, has theoretical knowledge (knows the method of performing practical skills, indications and contraindications, possible complications, etc.).
"Satisfactorily"	The student demonstrates the implementation of practical skills, making some mistakes that can be corrected by their teacher, has satisfactory theoretical knowledge (knows the basic principles of

	methods of practical skills, indications and contraindications, possible complications, etc.).
"Unsatisfactorily"	The student can not independently demonstrate practical skills (performs them, making gross errors), does not have a sufficient level of theoretical knowledge (does not know the methods of performing practical skills, indications and contraindications, possible complications, etc.).

### Evaluation of current learning activities (IPA)

When assessing the mastery of each subject of the discipline (PND) and the final lesson (PZ), the applicant is graded according to the traditional 4-point system: "excellent", "good", "satisfactory" and "unsatisfactory".

Final score for (IPA) and final classes (SO) is defined as the arithmetic mean of traditional grades for each lesson and software, rounded to 2 decimal places and listed in a multi-point scale according to Tables 1.

### Evaluation of the applicant's independent work

The material for independent work of applicants, which is provided in the topic of practical training simultaneously with the classroom work, is evaluated during the current control.

Assessment of topics that are submitted only for independent work and are not included in the topics of classroom classes, are controlled during the final lesson.

Annex 2  
to item 2.6 of the Instruction,  
approved  
by order of KhNMU  
from 21.08.2021 № 181

Table 2

Recalculation of the average score for current activities in a multi-point scale

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	200	4.22-4.23	169	3.45-3.46	138
4.97-4.99	199	4.19-4.21	168	3.42-3.44	137
4.95-4.96	198	4.17-4.18	167	3.4-3.41	136
4.92-4.94	197	4.14-4.16	166	3.37-3.39	135
4.9-4.91	196	4.12-4.13	165	3.35-3.36	134
4.87-4.89	195	4.09-4.11	164	3.32-3.34	133
4.85-4.86	194	4.07-4.08	163	3.3-3.31	132
4.82-4.84	193	4.04-4.06	162	3.27-3.29	131
4.8-4.81	192	4.02-4.03	161	3.25-3.26	130

4.77-4.79	191	3.99-4.01	160	3.22-3.24	129
4.75-4.76	190	3.97-3.98	159	3.2-3.21	128
4.72-4.74	189	3.94-3.96	158	3.17-3.19	127
4.7-4.71	188	3.92-3.93	157	3.15-3.16	126
4.67-4.69	187	3.89-3.91	156	3.12-3.14	125
4.65-4.66	186	3.87-3.88	155	3.1-3.11	124
4.62-4.64	185	3.84-3.86	154	3.07-3.09	123
4.6-4.61	184	3.82-3.83	153	3.05-3.06	122
4.57-4.59	183	3.79-3.81	152	3.02-3.04	121
4.54-4.56	182	3.77-3.78	151	3-3.01	120
4.52-4.53	181	3.74-3.76	150	Less 3	Not enough
4.5-4.51	180	3.72-3.73	149		
4.47-4.49	179	3.7-3.71	148		
4.45-4.46	178	3.67-3.69	147		
4.42-4.44	177	3.65-3.66	146		
4.4-4.41	176	3.62-3.64	145		
4.37-4.39	175	3.6-3.61	144		
4.35-4.36	174	3.57-3.59	143		
4.32-4.34	173	3.55-3.56	142		
4.3-4.31	172	3.52-3.54	141		
4.27-4.29	171	3.5-3.51	140		
4.24-4.26	170	3.47-3.49	139		

### 3.2 LIST OF THEORETICAL QUESTIONS

#### I Anatomy of the musculoskeletal system

- Subject and content of anatomy.
- Modern directions in the development of anatomy.
- Research methods in anatomy.
- Development of anatomy in Ukraine.
- Anatomical school of Kharkiv National Medical University.
- The main axes and planes of the human body.
- Definition of the skeleton; main functions of the skeleton.
- Bone as an organ.
- Classification of bones.
- General characteristic of the vertebrae's structure.
- The features of the cervical, thoracic and lumbar vertebrae.
- The features of the sacral bone and coccyx.
- The vertebral column as a whole. Parts of the vertebral column.
- Classification of the ribs. The anatomical structure of the I-XII ribs.
- The anatomical structure of the sternum.
- The thoracic cage as a whole.
- General characteristic of the skull. Parts of the skull.
- Cerebral skull: bones that form it.
- The occipital bone: parts, their structure.
- The frontal bone: parts, their structure.
- The parietal bone: surfaces, margins, angles.
- The ethmoid bone: parts, their structure.
- The sphenoid bone: parts, their structure.
- The temporal bone: parts, their structure.
- Canals of the temporal bone.
- Visceral (facial) skull. Upper jaw (maxilla): parts, processes, their structure.
- Lower jaw (mandible): parts, their structure.
- The inferior nasal conchae, vomer, hyoid bone: their locations and structure.
- The lacrimal, nasal, zygomatic, palatine bones: their locations and structure.
- The temporal fossa: borders, walls.
- The infratemporal fossa: borders, walls, communications.
- The pterygopalatine fossa: borders, walls, communications.
- The orbit: walls, communications.
- The nasal cavity: walls, borders of the openings.
- The nasal passages: their structure,

- communications.
36. The hard palate, its structure.
  37. The internal and external anatomical structures of skull vault.
  38. The anatomical structures of external skull base.
  39. The internal skull base: borders, structures, communications of the anterior cranial fossa.
  40. The internal skull base: borders, structures, communications of the medial cranial fossa.
  41. The internal skull base: borders, structures, communications of the posterior cranial fossa.
  42. Age-related features of the skull bones structure.
  43. Parts and structure of tubular bones.
  44. Upper limb: parts and bones that form it.
  45. The bones of the shoulder girdle: scapula and clavicle.
  46. Humerus bone: parts, structure.
  47. Radius bone: parts, structure.
  48. Ulnar bone: parts, structure.
  49. The bones of the hand: parts; names and structure of carpal bones, metacarpal bones and phalanges of the fingers.
  50. Lower limb: parts and bones that form it.
  51. Hip bone: structure. In the result of which bones joining is it formed?
  52. Ilium bone: parts, structures.
  53. Pubic bone: parts, structures.
  54. Ischium bone: parts, structures.
  55. The pelvis as a whole: its parts. Gender- and age-related features of the pelvis. The main diameters of the pelvis.
  56. The femur: parts, structures.
  57. The tibia: parts, structures.
  58. The fibula: parts, structures.
  59. The foot: parts, bones that form it. The names and structure of the tarsal bones, metatarsal bones, phalanges of the toe's fingers.
  60. Classification of bone's articulations: contiguous and interrupted articulations.
  61. Syndesmosis: definition, types, examples.
  62. Synchondrosis: definition, classification, examples.
  63. Synostosis: definition, formation, examples.
  64. Joint: definition, the main structure parts of the joint.
  65. Additional (auxiliary) components of the joints.
  66. Anatomical classification of joints: simple and compound joints, complex, combined, definition and an examples.
  67. The main axes and movements that are occur in the joint around these axes. Classification of joints according types of movements.
  68. Uniaxial joints: definition, types of uniaxial joints according to the form of articular surfaces, functions, examples.
  69. Biaxial joints: definition, types of biaxial joints according to the form of articular surfaces, functions, examples.
  70. Multi-axial joints: definitions, types of multi-axial joints according to the form of articular surfaces, functions, examples.
  71. Vertebral column as a whole: structure, curvatures, age-related features.
  72. Articulations between the vertebral bodies: classification, structure of intervertebral disk, its functional significance; ligaments strengthening the articulations between the bodies of the vertebrae.
  73. Articulation between the sacral bone and the coccyx: classification, structure, sacro-coccygeal articulation ligaments.
  74. Thoracic cage as a whole: structure, age-, gender-related and individual features.
  75. Classification of articulations of the skull bones: contiguous and interrupted joints.
  76. The fontanelles of the skull of the newborn: their structure, functional significance, terms of closing.
  77. The temporomandibular joint: structure, classification, movements.
  78. Articulations of the skull with the vertebral column: structure, classification, movements.
  79. Articulations of the shoulder girdle: joints, their articulation surfaces, auxiliary components, borders of capsule attachment, ligaments, classification, movements.
  80. Shoulder joint: articulation surfaces, auxiliary components, borders of capsule attachment, ligaments, classification.
  81. Elbow joint: joints that make it, their

- structure.
82. Articulations of the forearm: proximal radio-ulnar joint, interosseous membrane, distal radioulnar joint; their structure, classification.
  83. Radiocarpal joint: articulation surfaces of the bones that make it, intra-articular disk, borders of capsule attachment, ligaments, classification.
  84. Articulations of the hand: medial carpal joint, articulation surfaces.
  85. Articulations of the hand: the intercarpal joints and the carpometacarpal joints, their articulation surfaces. Features of the I-st carpometacarpal joints, its classification.
  86. Articulations of the hand: metacarpophalangeal and interphalangeal joints, their articulation surfaces, classification, movements.
  87. Articulations of pelvic girdle: classification.
  88. Sacroiliac joint: articulation surfaces of the bones make it, borders of capsule attachment, ligaments, classification, movements.
  89. Ligaments of the pelvis. Foramens that are formed by ligaments of the pelvis.
  90. The hip joint: articulation surfaces of the bones that make it, auxiliary components, borders of capsule attachment, ligaments, classification, movements.
  91. The knee joint: articulation surfaces, classification, movements. Auxiliary components: meniscus, intra-articular ligaments, folds, synovial bursas, ligaments.
  92. Articulations of the leg: types, their structure, classification.
  93. Ankle joint: articular surfaces, borders of capsule attachment, ligaments, classification, movements.
  94. Articulations of the foot bones: joints between the tarsal bones, types, their articular surfaces and ligaments.
  95. Transverse tarsal joint: articular surfaces, ligaments.
  96. Articulations of the foot: tarsometatarsal and intermetatarsal joints, their articular surfaces, ligaments, classification.
  97. Articulations of the foot: metatarsophalangeal and interphalangeal joints, their articular surfaces, ligaments.
  98. Arch structure of the foot: definition, structures, functions.
  99. Muscle as an organ: definition, inner structure.
  100. Auxiliary structures of muscles.
  101. Classification of muscles according to the shape, localization, direction of the fibers, relation to joints and functions.
  102. Biomechanic of muscles, their action on joints, the concept of the origin and insertion of muscles, about mobile and fixed points.
  103. The muscles of the back: classification, structure (origin, insertion), action.
  104. The muscles of the chest: classification, structure (origin, insertion), action.
  105. Diaphragm: definition, topography, parts and their structure; openings and their content, triangles, action.
  106. Muscles of the abdomen: topographic classification, structure (origin, insertion), action.
  107. Fasciae of the trunk (superficial, own, endothoracic, endoabdominal): their topography and functional significance.
  108. The sheath of the rectus abdominis muscle: walls and their structure.
  109. White line of the abdomen: topography, structure.
  110. The inguinal canal: walls, rings and their structure, content.
  111. Muscles of the neck: classification, structure (origin, insertion), action.
  112. Topography of the neck: parts, triangles, intermuscular spaces, their borders.
  113. Fasciae of the neck: topographical classification, relation to the muscles, internal organs, vascular-nerve bundles of the neck. Identify the interfascial spaces, their contents, and their communications.
  114. Fasciae of the neck: anatomical classification, identify the interfascial spaces, their contents and their communications.
  115. Muscles of the head: classification. Masticatory muscles: structure (origin, insertion), action.
  116. Muscles of the head: classification. Muscles of the face (muscles of facial expression): difference between the

- mimetic muscles from the rest of the skeletal muscles; structure (origin, insertion), action.
117. Muscles of shoulder girdle: (origin, insertion).
  118. Muscles of the shoulder joint: topographical classification, action.
  119. Muscles of the forearm (anterior group): topographical classification, structure (origin, insertion), action.
  120. Muscles of the forearm (posterior group): topographical classification, structure (origin, insertion), action.
  121. Muscles of the hand: topographical classification, structure (origin, insertion), action.
  122. Fasciae of the upper limb and their derivatives (intermuscular membrane, sheaths and their contents, fibrous and osteo-fibrous canals and their content).
  123. Forearm flexor muscles retinaculum: formations, topography, canals, their contents.
  124. Forearm extensor muscles retinaculum: formation, topography, osteo-fibrous canals in the area of the wrist, their contents.
  125. Synovial sheaths of the hand: their structure, topography, functional and practical significance.
  126. Axillary fossa: borders, walls.
  127. Axillary cavity: walls, triangles, openings (their borders and contents).
  128. Topography of the upper arm: grooves, canals of the radial nerve, elbow fossa, their borders and contents.
  129. Topography of the forearm: grooves, their borders and contents.
  130. Muscles of the pelvic girdle: topographical classification, structure (origin, insertion), action.
  131. Thigh muscles: topographical classification, structure (origin, insertion), action.
  132. Muscles of the leg: topographical classification, structure (origin, insertion), action.
  133. Muscles of the foot: topographical classification, structure (origin, insertion), action.
  134. Fasciae of the lower limb: iliac fascia and its derivatives (iliopectineal arch, vascular lacuna, muscular lacuna, their structures and content).
  135. Fasciae of the lower limb: wide fascia and its derivatives (saphenous opening, its falciform edge, structures and content).
  136. Fasciae of the lower limb: fascia of the leg and its derivatives (extensor muscle retinaculum, flexor muscle retinaculum, fibular muscle retinaculum), topography and the content of fibrous and osteo-fibrous canals of the lower extremity.
  137. Topography of the pelvic girdle: supra- and infrapiriforme openings, obturator canal, their borders, structures and contents.
  138. Topography of the thigh: muscular and vascular lacunae, femoral ring, their structures, borders, contents.
  139. Topography of the thigh: iliopectineal groove, anterior groove of the thigh, femoral triangle, their structures, borders, content.
  140. Adductor canal: walls, openings, contents.
  141. Popliteal fossa: its borders, floor, communications with canals of the thigh and leg.
  142. Topography of the leg: cruropopliteal canal, upper and lower musculoperoneal canals, their formation, communications, content.
  143. The femoral canal: femoral ring (inlet), subcutaneous outlet, their borders; the walls of the femoral canal.
  144. Fasciae of the foot, topography of the foot: the grooves of the sole, their borders and content.
- II Internal organs. Anatomy of regulatory systems.**
145. Systems of internal organs: definition, name organs that form these systems, give a general description of these systems functions.
  146. Classification of internal organs. The general plan of the structure of hollow organs.
  147. The oral cavity, its parts. The oral cavity itself, its walls, communications.
  148. Palate: parts. Hard palate, its structure.
  149. Palate: parts. Soft palate, parts, muscles,



- structure.
150. Tongue: parts, structure; features of the mucous membrane of the tongue, functions of the tongue.
  151. Embryological and anatomical classification of the muscles of the tongue, their morpho-functional characteristics; functions of the tongue.
  152. Teeth: parts of the tooth, tooth tissues.
  153. Permanent teeth: formula. Milky teeth, their formula. Terms of teeth eruption.
  154. Characteristics of the teeth of the upper jaw (maxilla).
  155. Characteristics of the teeth of the lower jaw (mandible).
  156. Glands of the oral cavity: classification. Small salivary glands, their topography and morpho-functional characteristics. Parotid gland: topography, structure.
  157. Glands of the oral cavity: classification. Submandibular gland: topography, structure. Sublingual gland: topography, structure.
  158. Mouth fauces: borders, connections.
  159. Pharynx: topography, parts, their connection; pharyngeal lymphoid ring.
  160. Pharynx: the structure of the mucous, muscular and outer coats.
  161. Esophagus: parts, their topography (holotopy, skeletotopy, syntopy).
  162. Esophagus: the structure of the wall, anatomical and physiological constrictions of the esophagus.
  163. Regions of the anterior abdominal wall.
  164. Stomach: topography (holotopy, skeletotopy, syntopy), parts.
  165. Stomach: wall structure; describe the structure of the mucous coat.
  166. Stomach: wall structure; describe the structure of the muscular and serous coats.
  167. Small intestine: parts, their topography, relation to the peritoneum.
  168. Duodenum: parts, their topography (holotopy, skeletotopy, syntopy).
  169. Small intestine: the structure of the wall; relation to the peritoneum.
  170. Small intestine: the structure of the mucous coat of the small intestine.
  171. Large intestine: parts, their topography (holotopy, syntopy).
  172. Large intestine: the structure of the wall (the features of the structure of the mucous coat, muscular and serous coats), the relation to the peritoneum.
  173. Caecum: topography (holotopy, syntopy), structural features.
  174. Parts and flexures of the colon, their topography (holotopy, syntopy), relation to the peritoneum.
  175. Features of the coats` structure of the colon. Shape features of its mucous coat.
  176. The rectum: parts, bends, relation to the peritoneum, its male and female topography.
  177. The rectum: features of the structure of the mucous coat, muscular and outer coats.
  178. Liver: external structure; the shape features of the diaphragmatic and visceral surfaces.
  179. Liver: topography (holotopy, skeletotopy, syntopy), liver ligaments, relation to the peritoneum.
  180. Liver: internal structure (lobes, parts, segments, lobules).
  181. Gall bladder: topography, parts, structure of the wall, functions.
  182. Common bile duct: topography, structure, function.
  183. Pancreas: parts, their topography (skeletotopy, syntopy), relation to the peritoneum.
  184. Exocrine and endocrine parts of the pancreas, ways of eliminating their secret.
  185. Peritoneum: definition, general characteristic; peritoneal cavity, its contents.
  186. Peritoneum: general characteristics. Omentums, ligaments, mesenteries, their structure and formation.
  187. Peritoneal cavity: floors (stores), their borders and organs.
  188. Upper store of the peritoneal cavity: hepatic bursa, its borders and communications.
  189. Upper store of the peritoneal cavity: pregastric bursa, its borders and communications.
  190. Upper store of the peritoneal cavity: omental bursas, its borders and communications.
  191. Middle store of the peritoneal cavity:

- canals, sinuses, folds, recesses.
192. Lower store of peritoneal cavity: excavations; the passage of the peritoneum in a small pelvis in men and women.
  193. General characteristics of the respiratory system.
  194. Nose: parts, structure.
  195. Nasal cavity: parts, their structure and their communications.
  196. Nasal cavity: nasal passages, their structure and communications.
  197. Paranasal sinuses: topography, communication, functions, age features.
  198. Larynx: topography (holotopy, skeletotopy, syntopy).
  199. Larynx: cartilages, joints, ligaments, muscles, and their structure.
  200. Cavity of the larynx: parts, their structure, borders.
  201. Rima glottidis: borders, formations, parts.
  202. Trachea and bronchi: topography, wall structure.
  203. Lungs: topography, external structure.
  204. Lung's root: topography, content.
  205. Lungs: lobes, broncho-pulmonary segments, lobules; their structure.
  206. Bronchial tree: branching, wall structure, functions.
  207. Alveolar tree: branching, wall structure.
  208. Acinus: definition, structure, functions.
  209. Pleura: general characteristics, functions; pleural cavity, its recesses.
  210. The borders of pleural sacs.
  211. Mediastinum: definition, classification.
  212. Mediastinum: organs, vessels and nerves of the anterior mediastinum.
  213. Mediastinum: organs, vessels and nerves of the posterior mediastinum.
  214. What organs belong to the urinary system, their functions.
  215. Kidneys: external structure.
  216. Kidney: topography of the right and left kidneys (holotopy, skeletotopy, syntopy).
  217. Kidney: its coats. Describe the fasciae of the kidney.
  218. Kidney: its fixation apparatus.
  219. Kidneys: the structure of the kidneys on the frontal section.
  220. Kidney: structural and functional unit of the kidney, its components.
  221. Kidneys: pathways for urine excretion (components of the kidney excretory pathways).
  222. The renal sinus, its components.
  223. Ureter: parts, topography (holotopy, skeletotopy, syntopy).
  224. Ureter: wall structure; narrowings.
  225. Urinary bladder: parts, topography (holotopy, skeletotopy, syntopy), relation to the peritoneum.
  226. Urinary bladder: the triangle of the bladder, its borders (the features of its mucous coat).
  227. Female urethra; topography, wall structure.
  228. What organs belong to the female genital system, their functions.
  229. Ovary: topography, ligaments, structure, functions.
  230. Uterus: topography, its position, ligaments, peritoneal relationship.
  231. Uterus: parts, wall structure, peritoneal relationship, functions.
  232. Cervix of uterus: parts, features of the mucous coat structure.
  233. Uterine tube: topography, parts, structure of the wall, relation to the peritoneum, functions.
  234. Vagina: topography, fornices, wall structure.
  235. External female genital organs: topography, structure.
  236. Mammary glands: topography, structure.
  237. Male genital organs: classification.
  238. Testes: the process of their descent.
  239. Testes: topography, external structure.
  240. Testes: internal structure, functions.
  241. Epididymes: topography, parts, structure, functions.
  242. Deferent duct: parts, topography, wall structure, functions.
  243. Seminal vesicles: topography, structure, function, ejaculatory duct.
  244. Spermatic cord: its components, topography, coats.
  245. Prostate gland: parts, internal structure, functions.
  246. Penis: parts, external structure.
  247. Male urethra: parts, their topography, constrictions and enlargements.

- Bulbourethral glands.
248. Perineum: definition, parts, their borders.
249. Urogenital diaphragm: borders, muscles and fascia.
250. Pelvic diaphragm: borders, muscles and fascia.
251. Ischioanal fossa: its walls, content.
252. Organs of the immune system: general features of structure, functions.
253. Bone marrow: topography, structure, functions, age features.
254. Thymus: topography, structure, functions, age features.
255. Spleen: topography, external structure, internal structure, functions.
256. Lymphatic (lymphoid) ring of the pharynx: tonsils, their topography, structure, functions.
257. Lymphatic (lymphoid) nodes, classification, topography, structure, functions.
258. Endocrine glands: general features of their structure, classification.
259. Thyroid gland: topography (holotopy, skeletotopy, syntopy), parts, structure, functions.
260. Parathyroid glands: topography, structure, functions.
261. Suprarenal gland: topography of right and left suprarenal glands, structure, functions.
262. Chromaffin bodies (paraganglia): topography, structure, functions.
263. Hypophysis: topography, parts, functions.
264. Epiphysis: topography, functions.
265. Endocrine part of the pancreas: structure, functions.
266. Cardiovascular system: components, functions.
267. Heart: topography, variants of the heart position, external structure.
268. Heart: heart chambers, features of the inner surfaces.
269. Right atrium: vessels draining into it, auricle, features of the inner surface, interatrial septum.
270. Right ventricle: communication, structure, features of the inner surface.
271. Left atrium: the vessels that enter it, auricle, features of the inner surface.
272. Left ventricle: communication, structure, features of the internal surface.
273. Valves of the heart: topography, structure;
274. Heart: the structure of the wall.
275. Conducting system of the heart: nodes, bundles, their topography, functions.
276. Heart: sources of blood supply.
277. Pericardium: structure, cavity, sinuses.
278. Heart: projection of the heart on the anterior thoracic wall.
279. Heart: auscultation sites of the heart valves.
280. Greater circulation.
281. Lesser circulation.
282. Fetus circulation.
- III Anatomy of the central nervous system (CNS). Anatomy of analyzers.**
283. Nervous system: functions, classification.
284. Neuron: definition, parts of the neuron, morphological and functional classification of neurons, their structure, topography, functions.
285. Gray matter of the central nervous system: structure, functions.
286. White matter of the central nervous system: structure, functions.
287. Nervous fibers, bundles, roots, nerves: their structure. Nerve nodes: classification, topography, function.
288. The structure of a simple and complex reflex arc.
289. Development of the central nervous system in embryogenesis.
290. Spinal cord: development, topography, upper and lower boundaries, external structure.
291. Segments of the spinal cord: definition, borders.
292. The structure of the spinal cord in longitudinal section.
293. The structure of the spinal cord in transverse section: horns, their relation to the segments.
294. Gray matter of the spinal cord: posterior horn, types of neurons that form them; nuclei and functional characteristics.
295. Gray matter of the spinal cord: lateral horns, types of neurons that form them;

- nuclei and functional characteristics in different segments.
296. Gray matter of the spinal cord: anterior horn, types of neurons that form them; nuclei and functional characteristics.
  297. White matter of the spinal cord: anterior columns, their boundaries, conducting tracts that make them.
  298. White matter of the spinal cord: lateral columns, their boundaries, conducting tracts that make up them.
  299. White matter of the spinal cord: posterior columns, their boundaries, conducting tracts that make up them.
  300. Spinal ganglia: topography, structure, function.
  301. Posterior roots of the spinal nerves: formation, topography, functional significance.
  302. Anterior roots of the spinal nerves: formation, topography, functional significance
  303. Spinal nerve: formation, topography, branches.
  304. Meninges of the spinal cord, spaces between them, their contents.
  305. Fixing apparatus of the spinal cord: formation, topography.
  306. Development of the brain: sources; stages of the three and five primary cerebral vesicles and their derivatives.
  307. The brain: parts (anatomical classification).
  308. Hemispheres of the cerebrum: surface, lobes, their boundaries.
  309. Gyri and sulci of the frontal lobe. Localization of cortical ends of analyzers in the cortex of the frontal lobe.
  310. Gyri and sulci of the parietal lobe. Localization of cortical ends of analyzers in the cortex of the parietal lobe.
  311. Gyri and sulci of the temporal lobe. Localization of cortical ends of analyzers in the temporal cortex.
  312. Gyri and sulci of the occipital lobe. Localization of cortical ends of analyzers in the cortex of the occipital lobe.
  313. White matter of the cerebral hemispheres: classification of fibers, functional significance.
  314. White matter of the cerebral hemisphere: internal capsule, its topography, parts.
  315. Callous body, its topography, parts, functional significance.
  316. Fornix: its topography, parts, functional significance.
  317. Rhinencephalon: parts, their components, functional significance.
  318. Basal nuclei: topography, parts, functional significance.
  319. Striped body (corpus striatum): topography, parts, functional significance.
  320. Lateral ventricles: parts, topography, walls, connections.
  321. Parts of the lateral ventricle: topography, walls, connections.
  322. Limbic system: components, functional significance.
  323. Interbrain: parts.
  324. Thalamus: external structure; nuclei of thalamus, their functional significance.
  325. Metathalamus: parts, their functional significance.
  326. Epithalamus: parts, their functional significance.
  327. Epiphysis cerebri: topography, function.
  328. Hypothalamus: parts, external structure, nuclei, their topography, functional significance.
  329. Pituitary gland: topography, parts, functions.
  330. Third ventricle: walls, connections.
  331. Midbrain: borders, external structure, parts.
  332. Midbrain: roof, external structure, gray matter, conducting tracts.
  333. The brainstem: the borders, parts, external structure.
  334. The brainstem: the characteristic of nuclei of cranial nerves.
  335. Rhombencephalic isthmus: its parts.
  336. Pons: borders, external structure.
  337. Pons: Gray and white matter, structure, topography, functional significance.
  338. Rhomboid fossa: formation, boundaries, relief. Projection of cranial nerves nuclei.
  339. Cranial nerves nuclei which are located in the dorsal part of the pons; their functional characteristics.
  340. Cranial nerves nuclei which are located in the dorsal part of the medulla oblongata; their functional characteristics.

341. The fourth ventricle: topography, walls, connections.
342. Cerebellum: development, external structure.
343. Cerebellum: Gray matter, its functional significance.
344. Cerebellum: classification of white matter, cerebellar peduncles
345. Medulla oblongata: boundaries, external structure.
346. Medulla oblongata: gray and white matter, structure, topography, functional significance.
347. Meninges of the brain.
348. Dura mater of the brain and its processes.
349. Dura mater of the brain: sinuses, their topography.
350. Ways of outflow of venous blood from the sinuses of the dura mater of the brain.
351. Meninges of the brain: spaces between them, their contents.
352. Formation and circulation of cerebrospinal fluid.
353. Subarachnoid space: formations, cisternae, connections.
354. Conducting tracts of the CNS: definition, classification.
355. Somatosensory tracts of proprioceptive sensitivity.
356. Somatosensory tracts of pain and temperature sensitivity.
357. Somatosensory tracts of tactile sensitivity.
358. Descending conducting tracts: classification.
359. Pyramidal tracts: corticospinal tract.
360. Pyramidal tracts: corticonuclear tract.
361. Extrapyramidal motor system: centers, functions.
362. Extrapyramidal tracts.
363. Organ of smell: structure, functions.
364. Organ of taste: structure, functions.
365. Eye: parts, topography.
366. Eyeball: external structure.
367. Eyeball: coats.
368. Refracting media of the eyeball.
369. Chambers of the eyeball: boundaries, connections. Formation and ways of circulation of the aqueous humour of the eyeball.
370. Accessory visual apparatus of the eye, name and their functions.
371. Accessory visual apparatus of the eye: external muscles of the eyeball, their characteristics and functions.
372. Lachrymal apparatus: parts, topography, functions; ways out of tears.
373. Conducting tracts of the visual analyzer.
374. Ear: its parts. External ear: its parts and structure.
375. External ear: the auricle, external auditory meatus, tympanic membrane, function.
376. Middle ear: parts.
377. Tympanic cavity: topography, walls, content.
378. Internal ear: parts.
379. Bone Labyrinth: Parts, Connections, Structure, Functions.
380. Membranous labyrinth: its parts. Topography.
381. Perilymphatic and endolymphatic spaces, formation, content,
382. Conducting tract of the auditory analyzer.
383. Conducting tract of the gravitation and balance.
384. Name twelve pairs of the cranial nerves.
385. Classification of the cranial nerves according to structure of their fibers.
386. I pair of cranial nerves: development, formation, topography.
387. II pair of cranial nerves: development, formation, topography.
388. III pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
389. Structure of the vegetative nodes (ganglia) of the head: their roots, branches and regions of innervation.
390. Ciliary ganglion: topography, roots, branches and regions of innervation.
391. IV pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
392. V pair of cranial nerves: development, its intracranial part.
393. V pair of cranial nerves: sensory ganglion, its topography.
394. First branch of V pair: formation, exit

- from the skull, branches, regions of innervation.
395. Second branch of V pair: formation, exit from the skull, branches, regions of innervation
396. Third branch of V pair: formation, exit from the skull, branches, regions of innervation.
397. Pterygopalatine ganglion: topography, roots, branches and regions of innervation.
398. Submandibular ganglion: topography, roots, branches and regions of innervation.
399. Sublingual ganglion: topography, roots, branches and regions of innervation.
400. Otic ganglion: topography, roots, branches and regions of innervation.
401. VI pair of cranial nerves: development, formation, nucleus, exit on the base of brain, exit from skull, branches, regions of innervation.
402. VII pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
403. VIII pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
404. IX pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
405. X pair of cranial nerves: development, formation, nuclei, exit on the base of brain, exit from skull, branches, regions of innervation.
406. X pair of cranial nerves: branches of the head and neck parts, topography, regions of innervation.
407. XI pair of cranial nerves: branches of the head and neck parts, topography, regions of innervation.
408. XII pair of cranial nerves: branches of the head and neck parts, topography, regions of innervation.
- IV Anatomy of the peripheral nervous system (PNS). Anatomy of the vascular system. Anatomy of the lymphatic system. Anatomy of the autonomic nervous system (ANS).**
409. General anatomy of arteries: classification.
410. Microcirculation of blood vessels: links, functional characteristics.
411. General anatomy of veins: classification.
412. Aorta: parts, their topography. Aortic arch, its branches. Variants of the branching of the aortic arch.
413. External carotid artery: topography, classification of branches.
414. External carotid artery: anterior group of branches, their topography, areas of blood supply.
415. External carotid artery: posterior group of branches, their topography, areas of blood supply.
416. External carotid artery: middle group of branches, their topography, areas of blood supply.
417. External carotid artery: maxillary artery, its topography, parts, branches, areas of blood supply.
418. Internal carotid artery: cervical, petrosal, cavernous parts, their topography, branches, areas of blood supply.
419. Internal carotid artery: the cerebral part, its topography, branches, areas of blood supply.
420. Internal carotid artery: ophthalmic artery, its topography, branches, areas of blood supply.
421. Subclavian artery: topography, segments, branches in each segment.
422. Subclavian artery: vertebral artery, parts, their topography, branches of each part, areas of blood supply.
423. Basilar artery: formation, topography, branches.
424. Circle of Willis: topography, formation, functional significance.
425. Subclavian artery: internal thoracic artery, topography, branches, areas of blood supply.
426. Subclavian artery: thyrocervical trunk, its branches, areas of blood supply.
427. Subclavian artery: costocervical trunk, its branches, areas of blood supply.
428. Internal jugular vein: formation, topography; tributaries classification.
429. Pterygoid plexus: topography, formation.
430. External jugular vein: formation, topography, tributaries.

431. Brachiocephalic vein: formation, topography, tributaries.
432. Superior vena cava: formation, topography, tributaries.
433. Lymph nodes of the head: classification, topography, areas of lymph collection, lymph trunks.
434. Lymphatic nodes of the neck: classification, topography, areas of lymph collection, lymph trunks.
435. Thoracic aorta: topography, branches, areas of blood supply.
436. Abdominal aorta: topography, classification of branches; parietal branches, their topography, areas of blood supply.
437. Abdominal aorta: visceral branches, their classification, topography, areas of blood supply.
438. Abdominal aorta: paired visceral branches, topography, areas of blood supply.
439. Abdominal aorta: unpaired visceral branches, topography, areas of blood supply.
440. Abdominal aorta: coeliac trunk, its topography, branches, areas of blood supply.
441. Coeliac trunk: common hepatic artery, its topography, branches, areas of blood supply.
442. Coeliac trunk: splenic artery, its topography, branches, areas of blood supply.
443. Abdominal aorta: superior mesenteric artery: topography, branches, areas of blood supply.
444. Abdominal aorta: inferior mesenteric artery: topography, branches, areas of blood supply.
445. Common iliac artery: formation, topography, branches.
446. Internal iliac artery: topography, classification of branches.
447. Internal iliac artery: parietal branches, their topography, areas of blood supply.
448. Internal iliac artery: visceral branches, their topography, areas of blood supply.
449. Azygos vein, hemiazygos vein, accessory hemiazygos vein: formation, topography, classification of tributaries.
450. Veins of the vertebral column: vertebral venous plexus, their topography, pathways of venous blood outflow.
451. Inferior vena cava: formation (roots), topography, classification of tributaries.
452. Portal vein: formation (roots), tributaries, region of venous blood collection; topography.
453. Internal iliac vein: topography, classification of tributaries.
454. Venous plexus of the pelvis: formation, topography, region of venous blood collection.
455. Intrasystemic and intersystemic venous anastomosis: definition.
456. Porto-caval venous anastomosis: formation, topography.
457. Cava-caval venous anastomosis: formation, topography.
458. Lymphatic system: general characteristics, functions. Lymphatic vessels: links, their structure, topography, functions.
459. Lymphatic system: thoracic duct, its roots, topography, tributaries, place of drainage into the venous system.
460. Lymphatic system: right lymphatic duct, its roots, topography, place of drainage into the venous system.
461. Lymphatic vessels and nodes of the thoracic cavity.
462. Lymphatic vessels and nodes of the abdominal cavity.
463. Lymphatic vessels and nodes of the pelvic cavity.
464. Autonomic part of the peripheral nervous system (vegetative nervous system): parts, functions, objects of innervation.
465. Differences between the somatic nervous system and the autonomic nervous system.
466. Morphological differences of the reflex arc of the autonomic part of the peripheral nervous system (vegetative nervous system).
467. Morphological differences between the sympathetic and parasympathetic parts of the autonomous part of the peripheral nervous system (vegetative nervous system).

468. Vegetative nervous system: central part, its classification, topography, formation.
469. Vegetative nervous system: peripheral part, its components.
470. Sympathetic trunk: topography, divisions, nodes, and their connections.
471. Cervical section of the sympathetic trunk: ganglia, their topography.
472. Cervical section of the sympathetic trunk: upper cervical ganglion, its topography, branches, areas of innervation.
473. Cervical section of the sympathetic trunk: middle cervical ganglion, its topography, branches, areas of innervation.
474. Cervical section of the sympathetic trunk: lower cervical ganglion, its topography, branches, areas of innervation.
475. Thoracic section of the sympathetic trunk: ganglia, their topography, branches, areas of innervation.
476. Greater and lesser splanchnic nerves: their formation, composition of fibers, topography.
477. Lumbar section of the sympathetic trunk: ganglia, their topography, branches, areas of innervation.
478. Sacral section of the sympathetic trunk: ganglia, their topography, branches, areas of innervation.
479. Vegetative plexus of the abdominal cavity: formation, topography, fiber composition, areas of innervation.
480. Abdominal aortic plexus: secondary plexus, their topography, composition fibers, nodes, areas of innervation.
481. Vegetative plexuses of pelvis: formation, topography, composition of fibers, areas of innervation.
482. Inferior hypogastric plexus: secondary plexuses, their topography, fiber composition, areas of innervation.
483. Objects of innervation of cerebral center of the parasympathetic part of the autonomic nervous system.
484. Objects of innervations of the sacral center of the parasympathetic nervous system.
485. Axillary artery: topography, divisions, branches, areas of blood supply.
486. The brachial artery: topography, branches, areas of blood supply. The deep artery of the arm, its topography, branches,
487. Radial artery: topography, branches, areas of blood supply.
488. Ulnar artery: topography, branches, areas of blood supply.
489. Cubital articular rete: formation, topography, areas of blood supply.
490. Superficial palmar arch: formation, topography, branches, areas of blood supply.
491. Deep palmar arch: formation, topography, branches, areas of blood supply.
492. Dorsal carpal network: formation, topography, branches, areas of blood supply.
493. Upper limb veins: classification. Superficial veins: their topography, areas of drainage into the venous vessels. Anastomosis between the superficial veins.
494. Veins of the upper limb: classification. Deep veins, their topography, peculiarities of placement on the wrist, forearm and arm.
495. Axillary vein: topography, tributaries.
496. Lymphatic vessels and lymph nodes of the upper limb.
497. External iliac artery: formation, topography, branches, areas of blood supply.
498. Femoral artery: topography, branches, areas of blood supply.
499. Popliteal artery: topography, branches, areas of blood supply.
500. Anterior tibial artery: topography, branches, areas of blood supply.
501. The posterior tibial artery: topography, branches, areas of blood supply.
502. Articular vascular network of knee: formation, topography, areas of blood supply.
503. Rete malleolaris medialis: formation, topography, areas of blood supply.
504. Rete malleolaris lateralis: formation, topography, areas of blood supply.
505. Calcaneal rete: formation, topography,



- areas of blood supply.
506. Medial plantar artery: formation, topography, branches, areas of blood supply.
  507. Lateral plantar artery: formation, topography, branches, areas of blood supply.
  508. Dorsal artery of the foot: formation, topography, branches, areas of blood supply.
  509. Arterial anastomosis of the foot.
  510. Veins of the lower limb: classification. Superficial veins: their topography, areas of drainage into the venous vessels.
  511. Superficial veins of the lower limb: great saphenous vein, its formation, topography.
  512. Deep veins of the lower limb: classification, their topography.
  513. Femoral vein: topography, tributaries.
  514. Lymphatic vessels and lymph nodes of the lower limb.
  515. Peripheral nervous system: components, their general characteristics.
  516. Spinal nerve: formation, topography, branches; matching the segments of the spinal cord.
  517. Posterior branches of the spinal nerves: fiber composition, topography, areas of innervation.
  518. Anterior branches of the spinal nerves: the composition of fibers; general characteristics of structure and topography of the anterior branches of different spinal nerves.
  519. Thoracic nerves: formations, branches, topography, areas of innervation.
  520. Intercostal nerves: formations, branches, topography, areas of innervation.
  521. General principles of the structure of somatic nervous plexus.
  522. Cervical plexus: formation, topography, branches, areas of innervation.
  523. Cervical plexus: phrenic nerve, its fiber composition, topography, branches, areas of innervation.
  524. Brachial plexus: formation, topography, parts, trunks, fasciculi (cords), their topography, classification of branches.
  525. Short branches of brachial plexus: their topography, areas of innervation.
  526. Long branches of brachial plexus: their topography, areas of innervation.
  527. Long branches of the brachial plexus: musculocutaneous nerve, its formation, topography, branches, areas of innervation.
  528. Long branches of brachial plexus: median nerve, its formation, topography, branches, areas of innervation.
  529. Long branches of brachial plexus: ulnar nerve, its formation, topography, branches, areas of innervation.
  530. Long branches of brachial plexus: radial nerve, its formation, topography, branches, areas of innervation.
  531. Long cutaneous branches of brachial plexus: their formation, topography, areas of innervation.
  532. Lumbar plexus: formation, topography, branches, areas of innervation.
  533. Lumbar plexus: femoral nerve, its topography, branches, areas of innervation.
  534. Lumbar plexus: obturator nerve, its topography, branches, areas of innervation.
  535. Sacral and coccygeal plexus: formation, topography, classification of branches.
  536. Sacral plexus: short branches, their topography, areas of innervation.
  537. Short branches of the sacral plexus: pudendal nerve, fiber composition, its topography, areas of innervation.
  538. Long branches of sacral plexus: their topography, areas of innervation.
  539. Long branches of sacral plexus: sciatic nerve, its topography, branches, areas of innervation.
  540. Tibial nerve, its formation, topography, branches, areas of innervation.
  541. Common fibular nerve: its formation, topography, branches, areas of innervation.
  542. Coccygeal plexus: formation, topography, branches, areas of innervation.

### **3.3. Test tasks for independent work**

Preparation for passing test tasks as components of EDKI and USMLE RX on the above topics.

### **3.4. Individual tasks**

Does not have

### **3.5. Other incentives**

Does not have

### **3.6. Rules for appealing the assessment**

The appeal is assessed in accordance with the provision "On the appeal of the results of the final control of students of the Kharkiv National Medical University", the order of 30.09.2020. №252.

[http://www.knmu.kharkov.ua/index.php?option=com\\_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=1226%3A2013-03-25-12-07-55&catid=4%3A2011-05-04-07-20-12&Itemid=19&lang=uk)

## **4. DISCIPLINE POLICY**

In order to successfully complete the relevant course, it is necessary to regularly attend practical classes; to have theoretical preparation for practical classes according to the subject; not to be late and not to miss classes; perform all necessary tasks and work in each lesson; be able to work with a partner or in a group; contact the curators of the course on various issues on the subject of classes and receive it when you need it.

Applicants can discuss different tasks, but their performance is strictly individual. It is not allowed to write off, use various software, tips, use a mobile phone, tablet or other electronic gadgets during classes for purposes other than the educational process. Applicants are not allowed to be late for practical classes.

Visiting patients during hospitalization is possible provided that applicants have appropriate clothing, a health book with a diphtheria vaccination note, the results of a measles immune test (or a vaccination mark), or other infectious diseases according to the current epidemic situation.

Applicants with special needs can meet with the teacher or warn him before the start of classes, at the request of the applicant, this can be done by the head of the group. If you have any questions, please contact the teacher.

Applicants are encouraged to participate in research and conferences on this topic.

All KNMU applicants are protected by the Regulations on the Prevention, Prevention and Settlement of Cases Related to Sexual Harassment and Discrimination at Kharkiv National Medical University, designed to define an effective mechanism for resolving conflict situations related to

discrimination and sexual harassment. This Regulation is developed on the basis of the following normative legal acts of Ukraine: the Constitution of Ukraine; Law of Ukraine "On Education"; Law of Ukraine "On Higher Education"; Law of Ukraine "On Principles of Preventing and Combating Discrimination in Ukraine"; Law of Ukraine "On Ensuring Equal Rights and Opportunities for Women and Men"; Convention for the Protection of Human Rights and Fundamental Freedoms; Convention for the Suppression of Discrimination in Education; Convention on the Elimination of All Forms of Discrimination against Women; General Recommendation № 25 to Article 4, paragraph 1, of the Convention on the Elimination of All Forms of Discrimination against Women; General Comment № 16 (2005) "Equal rights for men and women to enjoy economic, social and cultural rights" (Article 3 of the International Covenant on Economic, Social and Cultural Rights; UN Committee on Economic, Social and Cultural Rights); in the spirit of international mutual understanding, cooperation and peace and education in the spirit of respect for human rights and fundamental freedoms (UNESCO), the Concept of the State Social Program for Equal Rights and Opportunities for Women and Men until 2021. Kharkiv National Medical University provides education and work that is free from discrimination, sexual harassment, intimidation or exploitation. The University recognizes the importance of confidentiality. All persons responsible for the implementation of this policy (staff of deans' offices, faculties, institutes and the Center for Gender Education, members of the student government and ethics committee, vice-rector for research and teaching) are confidential about those who report or accuse of discrimination. or sexual harassment (except where the law requires disclosure and / or when disclosure by the University is necessary to protect the safety of others).

KhNMU creates a space of equal opportunities, free from discrimination of any national, racial or ethnic origin, sex, age, disability, religion, sexual orientation, gender, or marital status. All rights, privileges, programs and activities granted to applicants or staff of the University apply to all without exception, provided they are properly qualified. The anti-discrimination policy and the policy of counteracting sexual harassment of KhNMU are confirmed by the Code of Corporate Ethics and the Charter of KhNMU.

## 5. ACADEMIC INTEGRITY

**The Department of Human Anatomy maintains zero tolerance for plagiarism.** Applicants are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

## 6. RECOMMENDED LITERATURE

1. Human anatomy: textbook. way. for students. higher honey. textbook institutions of the IV level of accreditation / VG Cherkasov, S. Yu. Kravchuk; Nat. honey. Univ. O.O. Bogomolets, Bukovynian state. honey. un-t. - Vinnytsia: New book, 2011.
2. Anatomy of a child (with the basics of embryology and developmental defects): educational and methodical manual for students of higher medical (pharmaceutical) educational institutions / II Bobryk, VS Shkolnikov, SD Maksimenko, Yu. Y. Guminsky. - Luhansk: Virtual Reality, 2012.
3. AS Golovatsky, VG Cherkasov, MR Human anatomy: in 3 volumes 2015, Vinnytsia. New Book
4. Gaivoronsky IV, Nichiporuk Sh.N. Anatomy of the digestive system: Textbook. Allowance for honey. University. - СПб: Элби, 2007.
5. Netter Frank H. (ed.) Atlas of Human Anatomy: 7th edition. - Elsevier, 2018. - 791 p.
6. Atlas of Human Anatomy, 6th Edition Enhanced International Edition. Netter Frank H. Elsevier - health sciences division, 2015
7. Sinelnikov RD, Sinelnikov Ya.R., Sinelnikov A.Ya. Atlas of human anatomy: Textbook. allowance: In 4 vols. Vol. 2. - 7th ed., reworked. - М.: RIA "New Wave": Publisher Umerenkov, 2007. - 248 p.

### Supporting literature:

1. Human anatomy: a textbook in 2 volumes. / Ed. M.R. Sapina. Volume 1: GEOTAR-Media. 2012.- 456 p.
2. Human anatomy: a textbook in 2 volumes. / Ed. M.R. Sapina. Volume 2: GEOTAR-Media. 2012. - 528 p.
3. Atlas of human anatomy. Publisher: Ripol-Classic. 2012. - 576 p.
4. Bilich GL, Kryzhanovsky VA Human anatomy: Russian-Latin atlas  
Publisher: Exmo. 2012. - 704 p.
5. Bilich GL Popular medical encyclopedia. Publisher: Veche. 2012.- 400 p.
6. Bleshchunova EN Workshop on human morphology: Textbook. Kharkiv, 2013. - 74 p.
7. Boyanovich Yu. V., Balakirev NP Human anatomy. Atlas. Publisher: Phoenix. Series :: Medicine. 2011. - 736 p.
8. Budanova OL Human anatomy. Lecture notes. Phoenix Publishing House. 2007. - 285 p.
9. Grigorenko VG Theory and methods of PV of the disabled / Sermeev BV - Odessa, 1991. - 98 p.
10. Goncharov NI, Krayushkin AI. Splanchnology (in tables). - Volgograd, 2000.
11. Sapin MR, Nikityuk DB, Shvetsov EV Atlas of normal human anatomy. Textbook. MedPress.2009.
12. Sak NN, Sak AE I. Anatomy of the musculoskeletal system and sports morphology. Tutorial. Kharkiv: KhDAFK. 2009. - p.128.
13. Sak NN, Sak AE Fundamentals of musculoskeletal anatomy and sports morphology. Tutorial. Kharkiv: KhDAFK. 2010. - p.148.
14. Sak AE, Sak NN Laboratory workshop on the anatomy of regulatory and life support systems (regulatory systems, cardiovascular system and internal organs). - Kharkiv: KhDAFK, 2011.- 85 p.
15. Tayurskaya IM, Gorelova LV Anatomy in diagrams and tables: Textbook. Publisher: Phoenix. 2006. - 574 pages.

## 7. INFORMATION RESOURCES

<http://31.128.79.157:8083/course/view.php?id=496>



