

# SYLLABUS

**INTERNATIONAL EUROPEAN  
UNIVERSITY**



**SCHOOL OF  
MEDICINE**

**HUMAN ANATOMY**

**2023**



# SYLLABUS



Discipline				
		Human Anatomy		
Teacher(s)				
		Professor Savitsky Ivan Vladimirovich Lecturer Izirinska Julia Ruslanivna		
Profile of the teacher(s)				
		<a href="https://medicine.ieu.edu.ua/pro-yemsh/kafedry/kafedra-fundamentalnykh-dystsyplin">https://medicine.ieu.edu.ua/pro-yemsh/kafedry/kafedra-fundamentalnykh-dystsyplin</a>		
Consultations				
Face-to-face consultations		Third Thursday of the month from 15:00 to 16:00		
Online consultations		Second Friday of the month from 15:00 to 16:00		
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Discipline page				
		<a href="https://medicine.ieu.edu.ua/pro-yemsh/kafedry/kafedra-fundamentalnykh-dystsyplin">https://medicine.ieu.edu.ua/pro-yemsh/kafedry/kafedra-fundamentalnykh-dystsyplin</a>		
Form of final control		Test	Differentiated test	Exam
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# SYLLABUS



## 1 Brief annotation of the discipline

The study of the discipline "Human Anatomy" for physicians is a classical model of a university course adapted to the needs of medicine  
classical model of a university course that provides for each student to acquire knowledge in the world of natural science about the structure and functions of the human body as a whole, the ability to use the acquired knowledge in the further study of other basic sciences of medicine and in the practice of medicine.

## 2 Prerequisite for studying the discipline

Interdisciplinary connections: topographic anatomy and operative surgery, histology, normal physiology, surgery, therapy, radiology, neurology, dentistry, etc.

## 3 Purpose and objectives of the discipline

The purpose of teaching the discipline "Human Anatomy" follows from the objectives of the educational and professional program for graduates of a higher medical education institution and is determined by the content of the systemic knowledge and skills that a specialist doctor must master. The knowledge that students receive in the discipline is basic for the block of disciplines that provide natural science (block NS) and professional and practical (block PP) training.

The main objectives of the discipline "Human Anatomy" are:

- Analyze information about the structure of the human body, its constituent systems, organs and tissues.
- Demonstrate mastery of moral and ethical principles of attitude to a living person and his/her body as an object of anatomical and clinical research.
- Interpret the patterns of prenatal and early postnatal development of human organs, variations in organ variability, and developmental defects.
- Interpret gender, age and individual characteristics of the human body.
- Explain the patterns of development and features of the structure of human organs and systems at the macro- and microscopic levels.
- To predict the interdependence and unity of structures and functions of human organs and their variability under the influence of environmental factors; to determine the topographic and anatomical relationships of human organs and systems.
- To determine the impact of social conditions and labor on the development and structure of the human body.

## 4 Learning Outcomes

<b>PLO 1</b>	Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. Be responsible for professional development, the ability to further professional training with a high level of autonomy
<b>PLO 2</b>	Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.
<b>PLO 3</b>	Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical thinking of problems in the field of medicine and related interdisciplinary issues.



# SYLLABUS



## 4 Learning Outcomes

<b>PLO 4</b>	Identify and identify the leading clinical symptoms and syndromes (according to list 1); using standard methods, using preliminary data from the patient's history, examination of the patient, knowledge of the person, his/her organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2).
<b>PLO 5</b>	Collect complaints, anamnesis of life and disease, assess the patient's psychomotor and physical development, the condition of organs and body systems, and evaluate information on the diagnosis (according to List 4) based on the results of laboratory and instrumental studies, taking into account the patient's age.
<b>PLO 21</b>	Find necessary information in professional literature and databases of other sources, analyze, evaluate and apply this information.

## 5 ECTS Credits

14 ECTS credits / 420 academic hours, of which lectures - 64, practical classes - 160, independent work - 196.

## 6 Structure of the discipline

### Content section 1. Introduction to anatomy. Anatomy of bones

Topic Name	Number of hours			
	total	Among them		
		l.	pr.	ind.
Topic1. Subject and tasks of anatomy. Methods of research in anatomy. The main modern directions of development of anatomy. Development of Ukrainian anatomical schools. Kyiv anatomical school. Lviv anatomical school. The main stages of ontogeny. Tissue classification. Anatomical nomenclature. Axes and planes of the body. Bone as an organ. Classification of bones. Development. Types of ossification. Bones of the trunk.	5	2	-	3
Topic 2. General osteology. Bone as an organ. The doctrine of bones. Frontal, parietal, occipital, lattice bones.	9	2	3	4
Topic 3. Sphenoid, temporal bone. Canals of the temporal bone.	7	-	3	4
Topic 4. Facial skull. Eye socket, bony nasal cavity.	7	-	3	4



# SYLLABUS



6

## Structure of the discipline

### Content section 1. Introduction to anatomy. Anatomy of bones

Topic Name	Number of hours			
	total	Among them		
		l.	pr.	ind.
Topic 5. External and internal bases of the skull. Temporal, sub-temporal, wing-palatine fossa.	7	-	3	4
Topic 6. Bones of the upper limb.	7	-	3	4
Topic 7. Bones of the lower limb.	7	-	3	4

### Content section 2. Bone connections

Topic 8: Introduction to arthrology. General arthrology. Classification of bone joints. Structure and function of joints. Structure of the spine as a whole	5	2	3	-
Topic 9. Anatomy of continuous and discontinuous joints between bones. Development of joints between bones in ontogeny. Connections between the bones of the trunk and between the bones of the head.	9	2	3	4
Topic 10. Connections of the bones of the upper limb.	7	-	3	4
Topic 11. Connections of the bones of the lower extremity.	7	-	3	4

### Content section 3. Anatomy of muscles

Topic 12: General myology. Muscle as an organ. Structure and function of muscles. Classification. Development of muscles. Elements of biomechanics	8	1	3	4
Topic 13. Muscle as an organ. Classification of muscles. Development of skeletal muscles. Muscles and fascia of the back. Muscles and fascia of the chest. Diaphragm.	8	1	3	4
Topic 14. Muscles and fascia of the abdomen. Sheath of the rectus abdominis muscle. The inguinal canal. White line of the abdomen.	7	-	3	4
Topic 15. Muscles and fascia of the head. Muscles and fascia of the neck. Topography of the neck.	7	-	3	4
Topic 16. Anatomy of the muscles of the upper limb. Topography and fascia of the upper limb.	8	1	3	4
Topic 17. Muscles of the lower extremity. Fascia and topography of the lower extremity.	8	1	3	4

## Content section 4. The digestive system

Topic Name	Number of hours			
	total	Among them		
		l.	pr.	ind.
Topic 18: Introduction to splanchnology. Classification of internal organs. Anatomy of the oral cavity. Anatomy of the palate. Anatomy of the tongue. Anatomy of the salivary glands. Anatomy of the teeth. The dentoalveolar system.	9	2	3	4
Topic 19. Anatomy of the pharynx, esophagus. Anatomy of the stomach. Sections of the anterior abdominal wall.	7	-	3	4
Topic 20. Anatomy of the small and large intestine.	7	-	3	4
Topic 21. Structure and function of the glands of the digestive system. Liver, gallbladder. The pancreas. Anatomy of the peritoneum	9	2	3	4

## Content section 5. The respiratory system

Topic 22. General anatomy of the respiratory system. Embryogenesis of the respiratory system.	8	1	3	4
Topic 23. Anatomy of the trachea, main bronchi, lungs. Mediastinum.	8	1	3	4

## Content section 6. Genitourinary, endocrine and immune systems

Topic 24. Anatomy of the urinary organs (kidneys, ureters, bladder, urethra).	9	2	3	4
Topic 25. Anatomy of the male genital organs. Anatomy of the perineum. Anatomy of female genital organs. Anatomy of the mammary gland.	11	4	3	4
Topic 26. Anatomy of the organs of the immune system. Anatomy of the organs of the endocrine system	9	2	3	4

## Content section 7. Anatomy of the central nervous system

Topic 27: Introduction to the central nervous system. General principles of the structure of reflex arcs. Gray and white matter of the central nervous system. Development of the central nervous system in ontogeny and phylogeny. External and internal structure of the spinal cord. Embryogenesis of the brain. Anatomy of the medulla oblongata and bridge.	8	1	3	4
Topic 28. Anatomy of the cerebellum. IV ventricle. The rhomboid fossa.	7	-	3	4
Topic 29. Anatomy of the midbrain. Anatomy of the intermediate brain. III ventricle.	7	-	3	4



# SYLLABUS



6

## Structure of the discipline

### Content section 7. Anatomy of the central nervous system

Topic name	Number of hours			
	total	Among them		
		l.	pr.	ind.
Topic 30. The cortex, its components, functions. The olfactory brain. The relief of the cloak. Localization of functions in the cortex of the cerebral hemispheres.	8	1	3	4
Topic 31. Basal nuclei. White matter of the cerebral hemispheres. The lateral ventricles.	7	-	3	4
Topic 32. Meninges of the brain and spinal cord. Formation and ways of cerebrospinal fluid circulation.	8	1	3	4
Topic 33. Ascending conductive pathways. Descending conductive pathways.	8	1	3	4

### Content section 8. The senses

Topic 34. Anatomy of the sensory organs. Anatomy of the eye. Conducting pathways of the visual analyzer.	8	2	3	3
Topic 35. Anatomy of the ear. Conducting pathways of hearing and balance.	6	1	3	2
Topic 36. The organ of taste. The organ of smell. Conducting pathways of taste and smell. Skin, its derivatives. Conductive pathways of the skin analyzer.	6	1	3	2
Topic 37. Practical skills from the educational material on the anatomy of the sensory organs.	5	-	3	2

### Content section 9. Cranial nerves. Spinal nerves

Topic 38. Classification of cranial nerves. I, II, III, IV, VI, VIII pairs of cranial nerves.	8	2	3	3
Topic 39. V pair of cranial nerves. VII pair of cranial nerves. Autonomic nodes of the head.	6	-	3	3
Topic 40. IX, X, XI, XII pairs of cranial nerves.	6	-	3	3
Topic 41. Spinal nerves. General plan of formation of somatic nerve plexuses. Cervical plexus. Thoracic nerves	8	2	3	3
Topic 42. Practical skills and generalization of material on the anatomy of the nerves of the head and neck.	6	-	3	3

### Content section 10. Vessels of the head and neck

Topic 43. The doctrine of blood vessels - angiology. Aorta. Branches of the aortic arch. Common and external carotid arteries.	8	2	3	3
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## Content section 10. Vessels of the head and neck

Topic Name	Number of hours			
	total	Among them		
		l.	pr.	ind.
Topic 44. Anatomy of the arterial system	6	2	-	4
Topic 45. Internal carotid and subclavian arteries.	7	-	3	4
Topic 46. Veins of the head and neck. Lymph nodes and vessels of the head and neck.	8	2	3	3
Topic 47. Practical skills and generalization of material on the anatomy of the vessels and nerves of the head and neck. Vascularization and innervation	6	-	3	3

## Content section 11. Anatomy of the heart. Vessels and nerves of the trunk

Topic 48. Anatomy of the heart (I): topography of the heart, anatomy of the heart chambers. Large and small circles of blood circulation. Anatomy of the heart (II): structure of the heart wall, blood supply to the heart, pericardium. Projection of the boundaries of the heart and on the anterior wall of the chest cavity.	8	4	3	1
Topic 49. The aorta. Thoracic aorta. Abdominal aorta. Arteries of the pelvis. Arteries and veins of the great circulation	8	2	3	3
Topic 50. Veins of the head and neck. Lymphatic vessels of the head and neck	8	2	3	3
Topic 51. Veins of the trunk: unpaired and semi-paired veins, inferior vena cava, pelvic veins. Portal hepatic vein. Porto-caval, cava-caval and porto-cava-caval anastomoses. Lymphatic vessels and nodes of the thoracic, abdominal and pelvic cavities.	6	-	3	3
Topic 52. Autonomic part of the peripheral nervous system. Sympathetic part of the ANS. Parasympathetic part of the ANS.	8	2	3	3
Topic 53. Vascularization and innervation of the chest, abdominal and pelvic cavities. Practical skills and generalization of material on the anatomy of the heart, blood vessels and nerves of the trunk. Blood circulation of the embryo and fetus.	8	2	3	3
Topic 54. Lymphatic system. Phylogeny and ontogeny of lymphatic vessels and nodes	5	2	-	3

## Content section 12. Vessels and nerves of the upper and lower extremities

Topic 55. Anatomy of the somatic part of the peripheral nervous system	6	2	3	1
Topic 56. Blood supply and inertia of the upper limb. Brachial plexus	8	2	3	3
Topic 57. Vessels of the lower extremity. Somatic nerve plexuses: lumbar, sacral.	8	2	3	3
<b>Total hours -420 / 14 ECTS credits</b>	<b>420</b>	<b>64</b>	<b>162</b>	<b>194</b>





# SYLLABUS



## 9 Signs of discipline

Term of Teaching	Semester	International disciplinary integration	Course (year of study)	Cycles: general training/ vocational training/ free choice
1 semester	I, II	Yes	1st	General training

## 10 Grading System and Requirements

The current performance of students is assessed on a 4-point scale (2; 3; 4; 5) at each practical taking into account the approved evaluation criteria for the relevant discipline. The student must receive a grade for each topic for further conversion of grades into points on a multi-point (200-point) scale.

"5" - the student has correctly, fully and reasonably disclosed a theoretical issue or completed a practical task, demonstrated the ability to independently analyze the material, use the necessary terminology and has a lexical minimum, and presents the material clearly and logically when answering;

"4" - the student has sufficiently fully disclosed the essence of the question, has the necessary terminology and lexical minimum, but makes some inaccuracies that do not affect the correct understanding;

"3" - a student who has partially disclosed the essence of the question, has mastered the necessary terminology and lexical minimum at the minimum level, and has made mistakes of a fundamental nature.

Forms of current control:

Oral questioning (frontal, individual, combined) Practical testing of the formed professional skills Test control (open and closed test tasks)

The student's independent work is evaluated in practical classes and is a component of the student's final grade.

The final control is carried out in the form of a test in the first semester and a written exam, which includes:

a) test tasks (40), compiled in accordance with the topics of the content modules;

b) oral questioning - complex questions (4), which include theoretical material and practical skills from the content modules

**QR Code:** <https://ie.u.edu.ua/docs/rate-of-study.pdf>

## 11 Conditions of admission to the final control

Students who have completed all types of work, tasks provided for in the curriculum for the semester in accordance with the discipline, attended all classes provided for in the curriculum, written and submitted a medical history and have an average score for current academic activities of at least "3" (72 points on a 120-point scale) are allowed to take part in the semester final control.

**QR Code:** <https://ie.u.edu.ua/docs/rate-of-study.pdf>

## 12 Discipline Policy

The condition for a successful educational process is personal compliance by each student of a higher education institution with the rules of behavior accepted both at the university and in society. The future doctor must have a high level of behavioral culture, behave with dignity, tact, and self-control.

The student must be on time for classes and wear academic medical uniform (white coat or surgical suit).

The student must adhere to the schedule of the educational process, come to class prepared on the topic of the class. During the class, the student must not leave the classroom without the permission of the teacher; use a cell phone and other means of communication and information during classes.

means of communication and information without the permission of the instructor, engage in extraneous activities, or distract other students. When writing different types of papers, students must adhere to the rules of academic integrity.

The teacher must adhere to the implementation of the curriculum, objectively assess students' knowledge and skills. During the educational process, the teacher must be aware of anti-corruption measures and not engage in corrupt activities.



# SYLLABUS



13

## Policy for missing classes and completing assignments after the deadline

A student who, for valid reasons, confirmed by documentary evidence, was not subject to current control has the right to undergo current control within two weeks after returning to study.

A student who was absent from classes without valid reasons, did not participate in current control activities, did not eliminate academic debt, is not allowed to take the final semester control of knowledge in this discipline, and on the day of the exam, the academic staff member assigns a grade of "not admitted" in the examination record. Retake of the differentiated test in the discipline is assigned subject to the completion of all types of educational, independent (individual) work provided for by the working curriculum of the discipline and is carried out in accordance with the schedule of liquidation of academic debt approved by the directorate.

**QR Code:** <https://ieu.edu.ua/docs/050.pdf>

14

## Academic Integrity Policy

Participants in the educational process are guided by the principles of academic integrity

**QR Code:** <https://ieu.edu.ua/docs/050.pdf>

15

## Recommended sources of information

### Basic literature:

- Human anatomy. Edition 2. Cherkasov V. G., Kravchuk S. Yu. and others. - Vinnytsia: New book, 2018. - 640 p.
- Human anatomy. Volume 2. 7th edition. Golovatsky AS and others. - Vinnytsia: New book. - 2019. - 456 p.
- Human anatomy. Edition 3. Cherkasov V.G., Kravchuk S.Y. and others. - Vinnytsia: New book. - 2020. - 584 c.
- Human anatomy in three volumes / A.S. Holovatsky, V.G. Cherkasova, M.R. Sapin, Y.I. Fedoniuk - Vinnytsia: New book, 2006, 2007, 2008.
- Human Anatomy. In three volumes / Edited by V.G. Koveshnikov - Luhansk: Publishing house "Shiko" LLC "Virtual Reality", 2005. - 328 c.
- Human Anatomy. In two parts / Edited by K. A. Dubenko - K: CJSC "Atlant-UMS", 2004. - 689 p.
- Dubenko K.A. Anatomical terminology / K.A. Dubenko - K.: Polygraph. Book, 2001. - 392 p.
- Dubenko K.A. International anatomical nomenclature / K.A. Dubenko - K.: Perun, 1997. - 143 p.
- Mateshuk-Vatseba L.R. Normal anatomy / L.R. Mateshuk-Vatseba. - Lviv: Call of Conscience, 1997. - 269 p.
- International anatomical terminology (Latin, Ukrainian, Russian and English equivalents) / V.G. Cherkasov, I.I. Bobryk, Y.Y. Guminsky, O.I. Kovalchuk - Vinnytsia: NovaKnyha, 2010. 392 pp.
- International anatomical nomenclature / Edited by I.I. Bobryk, V.G. Koveshnikov - Kyiv: Zdorovye, 2001. - 328c.
- Netliukh M.A. Ukrainian-Latin anatomical dictionary / M.A. Netliukh. - Lviv, 2000. - 215 c.
- Svyrydov OI Human Anatomy / OI Svyrydov. - Kyiv: Zdorovye, 2000. - 400 p.
- Sinelnikov R.D. Atlas of human anatomy. In 4 volumes / R.D. Sinelnikov. - Moscow: Medicine, 2004.
- Friedrich Paulsen. Sobotta. Atlas der Anatomie des Menschen / Friedrich Paulsen, Jens Waschke. - München: Urban & Fischer, 2011. - 416 S.
- Netter F. H. Atlas of Human Anatomy. Ciba-geigy limited / F. H. Netter. - Switzerland, 1991. - 514 p.
- Rauber-Kopsch. Lehrbuch und atlas der anatomie des menschen / Rauber-Kopsch. - Bend I. Leipzig, 1940. - 500 S.

### Supporting literature

- Vilkhovoy VF X-ray anatomical atlas of vessels / VF Vilkhovoy: Zdorovye, 1975. - 141 p.
- Tonkov VN Textbook of normal human anatomy / VN Tonkov, ed. by B.A. DolgoSa-Burov. - L., Medgiz, 1962. 763 p.
- Fik V.B. Introduction to radiological anatomy. Radiopaque anatomy of bones and their joints / VB Fik. // Methodical development for teachers and students. - Lviv, 2002. - 26 p.



# SYLLABUS



15

## Recommended sources of information

4. Fiskova L.B. Methodical recommendations for independent work of students in the study of the musculoskeletal system. Ч.1. Osteology. Edition 2, revised, supplemented / L.B. Fiskova, L.R. Matshuk-Vatseba. - LSMU, Lviv, 1998. - 64 p.

5. Prives M.G. Human Anatomy / M.G. Prives, N.K. Lysenkov, V.I. Bushkevich - Hippo-Krat, St. Petersburg: Publishing house of St. Petersburg MAPO, 2004. 720 p.

Information resources

1. Testing Center - database of licensed test tasks Step 1 <http://testcentr.org.ua/>

2. OMIM (Online Mendelian Inheritance in Man) - An Online Catalog of Human Genes and Genetic Disorders <http://omim.org/>

16

## Tips for successful studying on the course

If you want to be successful in this discipline, you need to:

1. Be active, persistent, inquisitive, consistent
2. Be neat and polite
3. Systematically prepare for practical classes
4. Perform tasks for independent work and defend them in class.
5. To be present in the classroom in a medical gown
6. To solve tests and tasks independently, to work actively in class.
7. Prepare presentations and crossword puzzles in the discipline. Participate in student scientific conferences and engage in research work in the department's scientific circles.

I wish you perseverance, dedication and motivation to learn. And then success will come to you! See you in class!

Don't forget your medical gowns!