

<p>             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p>             SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
<p>             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>		<p>             044-42/11              044-46/11              044-70/11              044-75/11           </p>
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**ОРИГИНАЛ**


## Syllabus

Department of Morphophysiology  
 Department of Biology and Biochemistry  
 Department of Phthisiopulmonology and Radiology  
 Department introduction to the clinic

### Educational program: 6B10115 "Medicine"

Working curriculum of the discipline: Normal Cardiorespiratory system


1.	General information about the discipline		
1.1	Discipline code: KSN 2207	1.6	Academic year:2023-2024
1.2	Name of the discipline: Cardiorespiratory system is normal.	1.7	Course: 2
1.3	Prerequisites: Introduction to the profession, Structural organization of human physiological processes	1.8th	Semester: 4
1.4	Post-requirements: General pathology, cardio-respiratory systema in pathology	1.9	Number of credits (ECTS): 7/21/210
	Cycle: DB	1.10	Component: VC
2.	Description of the discipline		
The discipline "Cardiorespiratory system in normal" is a comprehensive study of anatomy, histology, physiology, biochemistry, clinical introduction and visual diagnostics in the context of a healthy cardiorespiratory system. This discipline is intended for students of the specialty "MMedical medicine" and is aimed at a deep understanding of the normal structure and functioning of the cardiovascular and respiratory systems.			
3.	Summative assessment form		
3.1	<input checked="" type="checkbox"/> Testing	3.5	Coursework
3.2	Written	3.6	Essay
3.3	Oral	3.7	Project
OSPE Draft	<input checked="" type="checkbox"/> 3.4/OCE or Practical skills admission	3.8	Other (specify)
4.	The discipline aims		
to develop students ' deep and comprehensive knowledge and understanding of the anatomy, histology, physiology and biochemistry of the cardiorespiratory system in a healthy body. This allows them to fully interact with patients in the future, as well as successfully integrate the knowledge gained during introduction to clinical practice and visual diagnostics.			
5.	Final learning outcomes (LO disciplines)		
LO1	- To determine the anatomical structure of the heart, lungs and blood vessels, as well as their functional features. - To outline the physiological processes that regulate blood circulation and respiration normally. -Describe the microscopic structure of the tissues that make up the cardiorespiratory system. -Explain the basic biochemical mechanisms that support the functioning of the heart and lungs.		

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LO 2	- To assess the relationship between the structure and function of the elements of the cardiorespiratory system. - To analyze the mechanisms of regulation of blood circulation and respiration in response to changing physiological conditions. - To understand the importance of biochemical processes for maintaining the normal functioning of the cardiorespiratory system.					
LO3	- To apply knowledge of anatomy, histology, physiology and biochemistry to the analysis of clinical cases related to the cardiorespiratory system. - To carry out a basic assessment of the condition of the patient's cardiorespiratory system using visual diagnostics.					
LO4	- To analyze the clinical symptoms and the results of diagnostic studies to make a preliminary diagnosis of conditions of the cardiorespiratory system. - To evaluate the effectiveness of various methods of visual diagnosis in the examination of patients with suspected diseases of the cardiorespiratory system.					
LO5	- To assess the condition of the patient's cardiorespiratory system and offer recommendations for further examination based on the data obtained.					
LO6	- To communicate effectively with patients and colleagues, explain to them the results of examinations and diagnostic procedures, and also develop self-study and work skills, including the ability to independently search and analyze relevant scientific literature and medical research.					
5.1	<b>LO disciplines</b>	<b>Learning outcomes of the OP, which are associated with the LO disciplines</b>				
	LO 1	LO 1-Applies in practice fundamental knowledge in the field of biomedical, clinical, epidemiological and socio - behavioral sciences.				
	LO 2					
	LO 3					
	LO 4	LO 2-Provides effective patient-centered carethat includes relevant and effective biomedical, clinical, and epidemiological sciences aimed at the diagnosis, treatment, and prevention of the most common diseases.				
LO 5						
LO 6	LO 11-Analyzes the results of research conducted and their professional activities based on scientific data					
<b>6.</b>	<b>Detailed information about the discipline</b>					
3	<p>Location of the Department of "Normal Anatomy" – 1 Al-Farabi Square, main academic building, ground floor; internal phone-40-82-22, 40-82-26 (263), e-mail<a href="mailto:anatomia.2012@mail.ru">anatomia.2012@mail.ru</a>. Email address: <a href="http://www.ukma.kz.ukma.kz">www.ukma.kz.ukma.kz</a>.</p> <p>Location of the Department of "Pathological Anatomy and Histology" Shymkent, Al-Farabi Square 3, academic building No. 2, 4th floor; classrooms-No. 404 a, b; № 406; №408; №409, №411a, b. e-mail of the Department: Patan.gisto@mail.ru</p> <p>Location of the Department of "Normal and Pathological Physiology", Shymkent, Al-Farabi Square, school building No. 2, 4th-5th floor; tel. 40-82-26 (422,423);</p> <p>Location of the Department of Biology and Biochemistry: 1 Al-Farabi Square, main academic building, 4th floor</p> <p>Location of the Department "Phthisiopulmonology and radiology": Clinic "Naz-Med", Ryskulova str. - 33. e-mail – el_nur2@mail.ru<a href="mailto:el_nur2@mail.ru">@mail.ru</a></p> <p>Location of the Department "Introduction to the clinic": Shymkent, Shymkent City Multidisciplinary Hospital, No. 2, Zhandosova str., 92/9 (modular) e-mail – klinikaskma@mail.ru.<a href="mailto:klinikaskma@mail.ru">@mail.ru</a>.</p>					
6.2	Number of hours	Lectures	of the Practical zan.	Lab.Zan Lecture.	SIWT	SIW
		14	56		42	77
6.3	Plan of the discipline					

No.	discipline	the Lecture	And	the TUTORIAL	SIW	
day 1	Anatomy	1	2	-		
	Physiology		-	2	4	
	Histology	-	1	-		
	Biochemistry	-	-	-		
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	-	-		
2 day	Anatomy	-	-	2	4	
	Physiology	1	2	-		
	Histology	-	-	-		
	Biochemistry	-	1	-		
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	-	-		
day 3	Anatomy	-	1	-		
	Physiology	-	-	-		
	Histology	1	1			
	Biochemistry	-	-	2	4	
	Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	1	-		
4 day	Anatomy	-	-			
	Physiology	-	1	-		
	Histology	-	-	-		
	Biochemistry	1	1	-		
	Basics of radiological diagnosis	-	1	-		
	introduction to the clinic	-	-	2	4	
5 day	Anatomy	-	2	2	4	
	Physiology	-	-	-		
	Histology	-	1	-		
	Biochemistry	-	-	-		
	the Basics of radiological diagnosis	1	-			
	introduction to the clinic	-	-	-		
Day 6	Anatomy	-	-	-		
	Physiology	-	2	-		
	Histology	-	-	2	4	
	Biochemistry	-	-	-		
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	1	1	-		
7 day	Anatomy	1	1	-		
	Physiology	-	-			
	Histology	-		-		
	Biochemistry	-	1	-		
	the Basics of radiological diagnosis	-	-	-		
	Introduction to the clinic	-	1	2	4	
8 day	Anatomy	-	-			
	Physiology	1	1	-		
	Histology	-	1	-		
	Biochemistry	-		2	4	
	Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	1	-		
9 day	Anatomy	-	2	2	4	
	Physiology	-	-	-		
	Histology	1		-		
	Biochemistry	-	-	-	-	
	The basics of radiological diagnosis	-	1	-		
	introduction to the clinic	-	-	-	-	
10 day	Anatomy		-			
	Physiology	-	2	-		
	Histology	-	-	2 RK -1	4	
	Biochemistry	1	1	-		
	Basics of radiation diagnostics	-	-	-		
	introduction to the clinic	-	-	-		


day 11	Anatomy	-	1	-		
	Physiology		-	2	4	
	Histology	-	1			
	Biochemistry	-	-	-		
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	1	1	-		
12 day of	Anatomy	1	-			
	Physiology	-	1	-		
	Histology	-	-	-		
	Biochemistry	-	1	-		
	the Basics of radiological diagnosis	-	-	2	4	
	introduction to the clinic	-	1	-		
13 days	Anatomy	-	2	-		
	Physiology	1	-	2	4	
	Histology	-	1	-		
	Biochemistry	-	-	-		
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	-	-		
day 14	Anatomy	1	-	2	4	
	Physiology	-	2	-		
	Histology	-	-	-		
	Biochemistry	-	-	-		
	The basics of radiological diagnosis	-	1	-		
	introduction to the clinic	-	-	-		
day 15	Anatomy	-	1	-		
	Physiology	-	-	-		
	Histology	-	1	1	1	
	Biochemistry	-	1	2	3	
	the Basics of radiological diagnosis	-	-	-		
	introduction to the clinic	-	1			
16 day	Anatomy	-	-	2	3	
	Physiology	-	-	1	2	
	Histology	-	1	-		
	Biochemistry	-	1	-		
	Basics of radiation diagnostics	-	1	-		
	Introduction to the clinic	-	-	-		
17 day	Anatomy		2			
	Physiology					
	Histology		1	1	3	
	Biochemistry					
	Basics of radiation diagnostics					
	Introduction to the clinic			2	3	
18 day	Anatomy			2	3	
	Physiology		1			
	Histology					
	Biochemistry		1			
	Basics of radiation diagnostics			1	1.5	
	Introduction to the clinic		1			
19 day	Anatomy		2			
	Physiology			2 pk-2	2,5	
	Histology					
	Biochemistry					
	Basics of radiation diagnostics					
	Introduction to the clinic					
1	Anatomy	4	16	12	28 (22)	2.0 kr
2	Physiology	3	12	9	21(16,5)	1.5 kr
3	Histology	2	8	6	14(11)	1.0 kr
4	Biochemistry	2	8	6	14(11)	1.0kr
5	Fundamentals of radiation diagnostics	1	4	3	7 (5,5)	0,5 kr

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6	Introduction to the clinic	2	8	6	14(11)	1,0kr
<b>7. Information about teachers</b>						
№	Full name	Degree and position	Email address	Research interests etc	Note	
1.	Tanabaev Baimakhan Dilbarkhanovich	Head of the Department, Candidate of Medical Sciences, acting professor	<a href="mailto:b.tanabayev@mail.ru">b.tanabayev@mail.ru</a>	Research area - "Macro-microhemocirculatory bed of pelvic organs during ligation of internal iliac arteries".	He gives lectures and conducts practical classes on anatomy in Kazakh and Russian.	
2.	Murzanova Dinar Alpenovna	Candidate of Medical Sciences, Acting Professor	dina.murzanova@gmail.com	The direction of scientific research is " Adam anatomiyasyndagyishkiagza ataularynynulattyksipaty.	He gives lectures and conducts practical classes on anatomy in Kazakh, Russian and English.	
3.	Турекулова Акжаркын Кенесовна	ст. преподаватель, магистр	jarkin-74@mail.ru	Направление научных изысканий – «Ыстық климат жағдайында қорғасынның магистралды артериялар қабырғасының құрылымына тигізетін әсері.»	Читаёт лекции и ведёт практические занятия по анатомии на казахском языке.	
4.	Ospanov Daken Tolenovich	art. teacher	dakenospanov@list.ru		He gives lectures and conducts practical classes on anatomy in the Kazakh language.	
5.	Dzhubanishbaeva Gaukhar Niyazkulovna	senior lecturer, Master	's	degree gaukharai_kairat@mail.ru The direction of scientific research – "MEMS endiru barysyndagykykalyk zhumysynyn maselelerin aykyndau"	Gives lectures and conducts practical classes on anatomy in the Kazakh language.	

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6.	Сисабеков Касымхан Ермекбаевич	Профессор, д.м.н	sisabekov47@mail.ru	«Нейроиммуногенездің жергілікті механизмдерінің морфологиялық негіздері.»	Читает лекции и проводит практические занятия по гистологии на казахском и русском языках.
7.	Zhumashev Seidaly Nurakhovich	I.about the professor, Doctor of Medical Sciences	sult_med@mail.ru	Scientific direction: "Study of the morphological structure of hemo-immunopoiesis"	He gives lectures and conducts practical classes in histology in Kazakh and Russian.
8.	Toymbetova Karlygash Abibullayevna	Senior lecturer	tojmbetova71@mail.ru	Scientific direction: "neuromorphology"	Читает лекции и проводит практические занятия по гистологии на казахском и русском языках
9.	Дуйсембиева Жазира Мерейқызы	assistant	zhazira-0508@mail.ru	Ведет научно-исследовательскую работу по теме «Оңтүстік Қазақстан аймағындағы тұрғындардың салауатты өмір салтын қалыптастырудың ғылыми негіздері».	Conducts practical histology classes in Kazakh.
10.	Zhakupbekova Galiya Saparovna	Head of the Department, Candidate of Biological Sciences, acting Professor	Galiya_074@mail.ru	"The influence of bioslasylin on the processes of lipid peroxidation in hepatocytes and blood plasma during phosphorus intoxication" takyryp boyynsha zhumysy zhurgizedi, candidate of the dissertation of korgady.	Author of 35 scientific publications, prepared 1 pre-patent, 1 patent.
11.	Сатыбалдиева Назгул Муталхановна	магистр, ст преподаватель	n_a_z_i_92@mail.ru	Ведет научно-исследовательскую работу по теме «Тынысжүйесі ауруларына нұтақтайтын мүгедектіктің нәлеуметтік-медициналық мәселелері». Author of 11 scientific publications.	He gives lectures and conducts practical exercises in physiology in Kazakh and Russian.


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12.	Murina Natalia Mikhailovna	Senior lecturer	namuri12@mail.ru	Author of 9 scientific publications.	He gives lectures and conducts practical exercises in physiology in Kazakh and Russian.
13.	Azimbayeva Saule Nurmakhanovna	Master's degree, senior lecturer	saule.a@mail.ru.a@mail.ru	Author of 7 scientific publications.	Gives lectures and conducts practical exercises in physiology in Kazakh and Russian
14.	Kenzhebekov Pernebek Kenzhebekovich	Candidate of Chemical Sciences, Professor	kenzhebekov.p@gmail.com	"Investigation of the chemical composition of volatile aroma-forming compounds in some meat products"	Author of 42 scientific publications, 1 textbook
15.	Ordabekova Asmira Baltabayevna	Master of Biology, senior lecturer	asmira75@mail.ru.ru	"Microelementoses"	Author of 20 scientific publications, 1 of the textbook
16.	Gulshahar Kenesbekovna Asilbekova	Master of Biology, senior lecturer	shahats@mail.ru@mail.ru	"Microelementoses"	Author of 10 scientific publications, 1 textbook
17.	Beisebayeva Lyazzat Mukhtarovna	senior lecturer	lyzzatb70@list.ru	"Organization of clinical and diagnostic laboratory service in modern conditions in the Republic of Kazakhstan"	Author of 4 scientific publications
18.	Zhienbayeva Aliya Altbaevna	teacher			of 1 scientific publication
19.	Umurzakova Gaukhar Amangeldievna	assistant of the department	visual_diagnostics@mail.ru	Radionuclide diagnostics of the urinary system	Gives lectures and conducts classes in Kazakh and Russian.
20.	Umiraliev Asset Amiralievich	Assistant of the Department	Aset.umiraliyev.72@mail.ru	Ultrasound of the abdominal cavity	Gives lectures and conducts classes in Kazakh and Russian.

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21.	Tulegenova Aigul Asanbayevna	Assistant of the Department	taa8009@mail.ru	Ultrasound of organs in children	Gives lectures and conducts classes in Kazakh and Russian. articles
22.	Zhumadilova Akmaral Rakhmatullayevna	Head of the Department, Candidate of Medical Sciences, acting Associate Professor	akmaral-aru@mail.ru	Doc topic: features of the formation of the reproductive system of adolescent girls living in the zone of action of organochlorine pesticides. Author of more than 40 scientific and methodological publications, 6 textbooks.	He gives lectures and conducts classes in Kazakh and Russian.
23.	Dilsara Talibbayevna Ababakirova	Assistant	dilsara_ababakirova@mail.ru_ababakirova@mail.ru	Innovative technology in the treatment of uterine fibroids	Gives lectures and conducts classes in Russian, Kazakh and English.
24.	Ermolaeva Olga Aleksandrovna	Assistant	Olga83_07@mail.ru	Author of more than 40 scientific publications, 1 textbook in Russian and English.	He gives lectures and conducts classes in Russian and Kazakh.
25.	Yussupov Babur Khanturayevch	senior lecturer	<a href="mailto:babur.skma@gmail.com">babur.skma@gmail.com</a>	Author of more than 30 scientific publications.	Performs the lectures and conducts classes for international students
26.	Krishna Hitesh	Assistant	-	-	Performs the lectures and conducts classes for international students
27.	Faiza Ashraf	Assistant	Ashraffaiza680@gmail.com	-	Performs the lectures and conducts classes for international students
28.	Krishna Harshith	Assistant	Harshithkrishna1907@gmail.com	-	Performs the lectures and conducts classes for international students




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29.	Kylyshbekova Zhuldyzay Talgatbekovna	Assistant	k.juldiz17@gmail.com	-	Performs the classes for international students
30.	Murugesan Kuppusamy	Assistant	-	-	Performs the lectures and conducts classes for international students
31.	Chandra Surachna	Assistant	Surachnachandra79@gmail.com	-	Performs the lectures and conducts classes for international students
32.	Kozhabekova Alma Serikkyzy	Assistant	almakozabek@gmail.com	-	Performs the classes for international students
33.	Mussirova Aiman Egembergenkyzy	Assistant	musirova@mail.ru	-	Performs the classes for international students
34.	Khamidullah Sakhar	Assistant	Sseet321@gmail.com	-	Performs the lectures and conducts classes for international students
35.	Dembayev Yerkebulan Sovetuly	Assistant	trzdes@gmail.com	-	Performs the classes for international students


Day	Class form	Summary of	each module	Number of hours	Forms/methods/ technologies of training	Forms / assessment methods
1	<b>Anatomy.</b> Lecture 1. General anatomy of the cardiovascular system. Circulatory circles	The structure of the heart. Heart chambers. The structure of the heart walls. Topography of the heart. The aorta and its branches. Pulmonary trunk, branches.	LO1	1	Introductory lecture	Feedback (control questions)

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	<b>Anatomy.</b> Practical lesson 1. Cardiovascular system. Heart. Circulatory circles. Age-specific features.	Heart, structure, topography. Conducting system of the heart. Pericardium. The mediastinum.	LO1, LO2	2	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Histology.</b> practical lesson#1.Topic: Arteries.	Arteries. The structure of the arterial wall in connection with hemodynamic conditions. Features of the structure and function of various types of arteries. Organ features of arteries.	LO1, LO2	1	Work in small groups, gis checklistof-topreparats, micrographic	checklist of practical lesson assessment.
	<b>Physiology.</b> CLOP/SIW1. Functions of the valvular heart apparatus.	Structure and functions of the valvular heart apparatus.	LO1, LO2	2/4/ 4	Preparation and protection of presentations.	Checklist for evaluating SIWs.
2	<b>Physiology.</b> Lecture 1. Physiology of cardiac activity.	Physiology of the cardiovascular system. Circulatory circles. Regulation of heart activity.	LO1	1	Introductory lecture	Feedback
	<b>Physiology.</b> Practical lesson.1 Physiology of the heart. Physiological properties of the heart muscle.	Physiology of the heart. Physiological properties of the heart muscle. Automaticity of the heart.	LO1 LO2	2	discussion of the main issues of the topic, performing test tasks, solving situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Biochemistry.</b> Biochemistry of the cardiovascular system.	Biochemistry of the cardiovascular system. The role of sodium, chlorine and other factors in maintaining osmotic pressure in the vascular canal. Biological role of vitamin K, C.	LO1 LO2	1	Seminar, situational tasks	Checklist for evaluating practical exercises.
	<b>Anatomy.</b> SIWT / SIW 1 Features of the heart structure in the fetus and newborn. Fetal blood circulation. Malformations of the heart.	Features of the heart structure in the fetus and newborn. Fetal blood circulation. Malformations of the heart.	LO1, LO2	2/4/ 4	Preparation and defense of the presentation;	Oral survey.Evaluation sheets for all forms of the completed task.

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3	<b>Histology.</b> Lecture #1. Topic: Histological structure of the cardiovascular system.	Introduction to the development and histophysiology of arteries, veins, vessels of the microcirculatory bed, lymphatic vessels, age-related features. Understanding the development and histophysiology of the heart.	LO1	1	overview	Answers to control questions
	<b>Histology.</b> Practical lesson#2. Topic: Vessels of the microcirculatory bed.	Vessels of the microcirculatory bed. Structure, hemodynamic conditions, significance in metabolism. Arterioles, their role in blood circulation. Building. Hemocapillaries. Classification, function, and structure. Organ features of capillaries. Venules. Functional significance and structure. Arteriovenous anastomoses. Value for blood circulation.	LO1, LO2	1	Work in small groups, gis checklistof-topreparats, micrographic	checklist of practical lesson assessment.
	<b>Anatomy.</b> Practical lesson 2. The aorta and its parts. Branches of the arch and thoracic part of the aorta.	The aorta and its parts: structure and topography. Coronary arteries. Branches of the aortic arch. Branches of the thoracic aorta.	LO1, LO2	1	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Introduction to the clinic.</b> Practical teaching1. Pain in the heart area. Diagnosis and first aid	of pain in the heart and behind the sternum. Characteristics of symptoms. Causes and mechanism of development of pain in the heart. Dyspnea. Edema. Suffocation (cardiac asthma). Pre-medical care for heart pain	LO2 LO1 1	1	Performing test tasks, solving clinical problems, performing practical work	Checklist for evaluating practical classes
	<b>Biochemistry.</b> CLOP/SIW1. Chemical factors in the regulation of the bloodstream.	Chemical factors in the regulation of the bloodstream (mechanism of action of vasodilators and vasoconstrictors).	LO1 LO2	2/4/ 4	presentation, essay	Checklist for SIW assessment
4	<b>Biochemistry.</b> Lecture 1. Myocardial biochemistry.	Biochemistry of the myocardium. Features of the structure and chemical composition of heart muscle tissue (myocardium). The main biochemical processes in the myocardium.	LO1	1	Overview	questions of feedback

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	<b>Biochemistry.</b> Practical study2. Biochemistry of vascular tone and blood circulation.	Biochemistry of vascular tone and blood circulation. Laboratory work: "Determination of total cholesterol concentration in blood serum".	LO1 LO2	1	seminar, laboratory work, situational tasks	Checklist for evaluating practical classes, performing laboratory work.
	<b>Physiology.</b> Practical preoccupation2 Pumping function of the heart. Phases of the cardiac cycle.	Pumping function of the heart. Phases of the cardiac cycle. Systolic and minute volume of blood flow.	LO1 LO2	1	discuss the main issues of the topic, perform test tasks, solve situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Introduction to the clinic.</b> SIWT/SIW1 . Clinical methods of examination of patients with diseases of the cardiovascular system	General examination of a patient with diseases of the cardiovascular system. Collecting anamnesis. The sequence of conducting a general examination of the patient: conditions, rules and techniques. Main complaints. Preparation of the patient for laboratory and instrumental research methods.	LO2 LO1 1	2/4/4	Working with electronic information resources. Preparation of a presentation, crossword puzzle, preparation of an intellectual map, preparation of test tasks. Demonstration of practical skills	Protection of presentations, crossword puzzles, smart cards, and test tasks. Evaluation of
	<b>the Basic radiation diagnostics checklist.</b> Practical study1 Radiation diagnostics of the heart and main vessels. Radiography of the heart. Computed tomography of the heart and main vessels. Echocardiography	-Visual anatomy of the heart and large vessels. Main radiological symptoms and syndromes. Basic and additional research methods. Radiography of the heart Computed tomography of the heart and main vessels Echocardiography	LO 1 LO1 1	1	discussion, working with the provided radiological images	oral survey, discussion of the results of the study, solving situational problems, working with radiological images
5	<b>Fundamentals of radiation diagnostics.</b> Lecture Radiation	Radiological methods for studying the cardiorespiratory system.. Basic X-ray methods for studying the cardiorespiratory system.	LO 1	1	Overview and illustrative	Feedback


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	<p>diagnostics of the cardiorespiratory system. Radiological methods for studying the cardiorespiratory system.</p>	<p>Basic and additional methods for studying the cardiorespiratory system.</p>				
	<p><b>Anatomy.</b> Practical lesson 3. General, external and internal carotid arteries: topography, projection, branches, areas of blood supply.</p>	<p>General, external and internal carotid arteries: topography, projection, branches, blood supply areas. Blood supply to the brain.</p>	<p>LO1 LO2</p>	<p>2</p>	<p>work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks</p>	<p>oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks</p>
	<p><b>Histology.</b> Practical lesson#3 Topic: Veins. Lymphatic vessels</p>	<p>of the vein. The structure of the venous wall due to hemodynamic conditions. Features of the structure of veins of various types. Structure of venous valves. Lymphatic-vessels. Structure and classification. The structure of lymphatic capillaries and various types of lymphatic vessels.</p>	<p>LO1, LO2</p>	<p>1</p>	<p>Work in small groups, checklist of- histopreparations, micrographs</p>	<p>Checklist of practical lesson assessment.</p>
	<p><b>Anatomy.</b> SIWT/SIW 2. Subclavian, axillary, and brachial arteries: topography, branches, and areas of blood supply.</p>	<p>Subclavian, axillary, and brachial arteries: topography, branches, and areas of blood supply.</p>	<p>LO2</p>	<p>2/4/ 4</p>	<p>-Preparation and defense of the presentation.  - performing a diagram of the course of the artery and blood supply areas.</p>	<p>An oral survey.  Evaluation sheets for all forms of the completed task.</p>
6	<p><b>Introduction to the clinic.</b> Lecture 1 Diseases of the cardiovascular</p>	<p>Risk factors, clinical manifestations. Diagnosis and first aid for pain in the heart.</p>	<p>LO2 LO1 1</p>	<p>1</p>	<p>review</p>	<p>Feedback</p>


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	system. Diagnosis and first aid					
	<b>Introduction to the clinic.</b> Practical lesson 2. Arterial hypertension and symptomatic hypertension.	Hypertension. Risk factors, classification by stages, degree of hypertension and risk of cardiovascular complications. Clinic, diagnosis, and complications. Diagnostics and first aid. Prevention. Diet therapy.	LO2 LO1 1	1	Performing test tasks, solving clinical tasks, performing practical work	Checklist for evaluating practical exercises
	<b>Physiology.</b> Practical lesson 3 Conducting system of the heart.	Conducting system of the heart. Stanius ' experience.	LO1 LO2	2	discussion of the main issues of the topic, performing test tasks, solving situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Histology.</b> SIWT / SIW 1. Morphofunctional features of the cardiac conduction system	Sources of development of the cardiac conduction system. Structure and functional significance of the cardiac conduction system.	LO1, LO2	2/44	Work in smallgroups, presentation defense, glossary compilation.	Checklist for evaluating SIW
7	<b>Anatomy.</b> Lecture 2. Arteries of the great circle of blood circulation	Branches of the ascending aorta and aortic arch, parietal and visceral branches of the thoracic and abdominal parts of the aorta.	LO1	1	Review	Feedback (Security questions)
	<b>Anatomy.</b> Practical lesson 4. Radial, ulnar, arteries, arches and arteries of the hand: topography, branches, and areas of blood supply.	Radial, ulnar, arteries, arches and arteries of the hand: topography, branches, and areas of blood supply.	LO1, LO2	1	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and / or solving test and situational tasks. <b>tasks</b>	oral survey, assessment sheet for solving situational problems, assessment sheet for completing test tasks
	<b>Introduction to the clinic.</b> Practical lesson 3. IHD, myocardial infarction and stroke	Angina pectoris-classification. Angina pectoris of tension, clinic, diagnosis, treatment (medical, surgical), prevention. Unstable angina, clinical forms (first-time tension angina, progressive angina, first-time resting angina). Myocardial	LO2 LO1 1	1	Performing test tasks, solving clinical problems, performing practical work	Checklist for evaluating practical classes




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		infarction. Stroke. Diagnostics. Emergency care				
	<b>Biochemistry.</b> Practical lesson. Biochemistry of the myocardium.	Biochemistry of the myocardium. The main biochemical processes in the myocardium. The role of proteins in maintaining oncotic pressure in the vascular canal.	LO1 LO2	1	seminar, testing	Checklist for evaluating a practical lesson.
	<b>Introduction to the clinic.</b> SIWT/SIW2 Additional methods of examination of patients with diseases of the cardiovascular system	Daily blood pressure monitoring (ABPM). Technique for measuring blood pressure and pulse. Holter ECG. Veloergometry. Treadmill test. Indications and contraindications for performing these studies	LO2 LO1 1	2/4/ 4	Working with electronic information resources. Preparation of a presentation, crossword puzzle, preparation of an intellectual map, preparation of test tasks. Demonstration of practical skills	Protection of presentations, crossword puzzles, smart cards, and test tasks. Assessment by checklist
8	<b>Physiology.</b> Lektion2 . Laws of hemodynamics. Methods of CVS research.	Laws of hemodynamics. Methods of CVS research. Regulation of blood flow through the blood vessels.	LO1	1	review	Answers to control questions
	<b>Physiology.</b> Practical lesson .4 Regulation of cardiac activity of the heart.	Regulation of heart activity. Intracardiac regulatory mechanisms. Extra-cardiac regulatory mechanisms. Humoral regulation of heart activity.	LO1 LO2	1	discuss the main issues of the topic, perform test tasks, solve situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Histology.</b> Practical lesson#4 Topic: Heart.	Heart. The structure of the heart wall, its membranes, and their tissue composition. Blood vessels of the heart. Innervation of the heart. Endocardium and its derivatives - heart valves. Myocardium, its typical and atypical muscle tissue, significance in the work of the heart, its morpho-functional characteristics. Epicardium and parietal leaf of the pericardium.	LO1, LO2	1	Work in small groups, checklist of histopreparations, micrographs	Checklist of practical lesson assessment.
	<b>Introduction to the clinic.</b> Practical lesson 4.	Causes of occurrence. Classification. Clinical manifestations. Acute vascular insufficiency: syncope, collapse, shock. Emergency care.	LO2 LO1 1	1	Performing test tasks, solving clinical tasks,	Checklist for evaluating practical classes


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	Acute coronary and cardiovascular insufficiency.	Diagnostic criteria. Pre-medical assistance.			performing practical work	
	<b>Biochemistry.</b> SIWT/SIW2 . Hormones that regulate blood pressure.	Hormones that regulate blood pressure. Prostaglandins, kallikreins, bradykinins.	LO1 LO2	2/4/ 4	Essay, presentation, analysis of scientific articles on the subject, glossary	Checklist for evaluating SIW
9	<b>Histology.</b> Lecture No.2 Topic: Histological structure of the respiratory system.	Morphofunctional characteristics of the respiratory system. Classification, sources, and course of development. Features of the structure of airways. The bronchial tree. Morphofunctional characteristics of the lung. Respiratory department of the lung. The air-blood barrier.	LO1	1	overview	Answers to control questions
	<b>Anatomy.</b> Practical lesson 5. Abdominal part of the aorta: topography, branches, areas of blood supply.	Abdominal part of the aorta: topography, paired and unpaired visceral and parietal branches, blood supply areas.	LO1, LO2	2	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Basics of radiation diagnostics.</b> Practical lesson 2. Radiation diagnostics of large vessels. Angiography. Coronarography.	Visual anatomy of large vessels. Basic and additional research methods. Angiography. Koronarography	LO2 LO1 1	1	discussion, working with the provided radiological images	oral survey, discussion of research results, solving situational problems, working with radiological images
	<b>Anatomy.</b> SIWT / SIW 3 External iliac artery: topography, branches, blood supply areas.	External iliac artery. Femoral, popliteal, anterior and posterior tibial arteries, foot arteries: topography, branches, blood supply areas.	LO1, LO2	2/4/ 4	-Preparation and defense of the presentation.  - performing a diagram of the course of the	Oral survey.  Evaluation sheets for all forms of the




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					artery and blood supply areas	completed task.
10	<b>Biochemistry.</b> Lecture Energy metabolism of the myocardium.	Biochemical features of myocardial energy supply. Metabolism in anaerobic and aerobic conditions. Providing energy to tissues and organs in anaerobic and aerobic conditions. Biological oxidation.	LO1	1	Overview	questions of feedback
	<b>Biochemistry.</b> Energy metabolism of the myocardium. Practical lesson.	Energy metabolism of the myocardium. Clinically important myocardial enzymes and other cardiomarkers.	LO1 LO2	1	seminar, situational tasks, testing	Checklist for evaluating a practical lesson.
	<b>Physiology.</b> Practical lesson #5 Basic laws of hemodynamics. Movement of blood through the blood vessels.	Basic laws of hemodynamics. Movement of blood through the blood vessels.	LO1 LO2	2	discussion of the main issues of the topic, performing test tasks, solving situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Histology.</b> SIWT/SIW 2. Border control 1.	Consolidation of the completed material on the topics of lectures, practical classes, SIWT and SIW.	LO1 LO2	2/4	Written response to tickets (situational tasks)	RC Assessment checklist
11	<b>Introduction to the clinic.</b> Lecture 2. Diseases of the respiratory system. Diagnosis and first aid	Causes of respiratory diseases. Major respiratory diseases. Diagnostics and first aid for respiratory diseases.	LO2 LO1 1	1	overview	feedback
	<b>Anatomy</b> Practical lesson 6. Common iliac artery: topography, branches, areas of blood supply.	Common iliac artery. Internal iliac artery: topography, branches, areas of blood supply.	LO1 LO2	1	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Histology.</b> Practical lesson#5 Topic: Nasal cavity, nasopharynx, larynx	, walls of airways. Extrapulmonary air-bearing pathways. Structure of the wall of the airways: nasal cavity, nasopharynx, larynx. Histofunctional features of the mucous membrane.	LO1, LO2	1	Work in small groups, gis checklist of- topreparats, micrographic	checklist of practical lesson assessment.

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	<b>Introduction to the clinic.</b> Practical lesson 5. Bronchial asthma. Diagnosis and first aid	are risk factors. Clinical manifestations. Asthmatic status. Differential diagnosis of bronchial asthma attack and cardiac asthma. Diagnosis and first aid for suffocation attacks.	LO2 LO1 1	1	Performing test tasks, solving clinical tasks, performing practical work	Checklist for evaluating practical exercises
	<b>Physiology .</b> SIWT/SIW 2 Electrical activity of the myocardium. Methods for studying the activity of the heart. ECG.	Electrical activity of myocardial cells. Mechanical izvukovye manifestations of cardiac activity. ECG.	LO1 LO2	2/4/4	Preparation and protection of presentations.	Checklist for evaluating SIWs.
12	<b>Anatomy.</b> Lecture 3. The system of the superior and inferior vena cava, the sources of their formation.	Superior and inferior vena cava, portal vein: formation, tributaries, topography.	LO1	1	Review	Feedback (control questions)
	<b>Physiology.</b> Practical lesson 6 Regulation of the vascular system.	Vasomotor center. Reflex and humoral regulation of blood vessels.	LO1 LO2	1	discuss the main issues of the topic, perform test tasks, solve situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems
	<b>Biochemistry.</b> Practical lesson. Lipid	exchange is the exchange of lipids. Formation and metabolism of transport lipoproteins.	LO1 LO2	1	seminar, situational tasks, testing.	Checklist for evaluating a practical lesson.
	<b>Introduction to the clinic.</b> Practical lesson 6. Acute upper respiratory tract obstruction and pulmonary edema. Acute and chronic respiratory failure	Symptoms, classification, degrees, and risk factors. Clinical manifestations. Aspiration. First aid for acute upper respiratory tract obstruction and pulmonary edema. Respiratory distress syndrome. Exudative pleurisy. Pneumothorax. First aid for acute and chronic respiratory failure. Special feature for Covid-19. Familiarization with the spricase from the Ministry of Health of the Republic of Kazakhstan 2021 May 27 No. 47	LO2 LO1 1	1	Performing test tasks, solving clinical problems, performing practical work	Checklist for evaluating practical classes
	<b>Fundamentals of radiation diagnostics.</b>	Radiation methods for the study of the heart and large vessels Basic X-ray methods for the study of heart	LO1 1 LO2	2/4/4	preparation of presentations,	defending presentations,

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	SIWT/SIW1 Use of basic radiation research methods in the diagnosis of the heart and large vessels	organs and large vessels . Basic principles of X-ray and ultrasound examination of the heart			drawing up crosswords, test tasks, situational tasks, working with radiological images.	solving crosswords, test tasks, situational tasks, and working with radiological images.
13	<b>Physiology.</b> Lecture 3 Physiology of the respiratory system.	Physiology of the respiratory system. External breathing. Transport of gases by blood. Methods of breath research.	LO1	1	overview	Answers to control questions
	<b>Anatomy.</b> Practical lesson 7. Superior vena cava: formation, tributaries, topography. Unpaired and semi-paired veins: topography, tributaries.	Superior vena cava: formation, tributaries, topography. Unpaired and semi-paired veins: topography, tributaries.	LO1 LO2	2	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Histology.</b> Practical lesson#6 Topic : Trachea and main bronchi.	Extrapulmonary airways. Structure of the airway wall: trachea and main bronchi. Histofunctional features of the mucous membrane.	LO1, LO2	1	Work in small groups, gis checklistof-topreparats, micrographic	checklist of practical lesson assessment.
	<b>Physiology.</b> SIWT/SIW3 Factors that ensure the movement of blood in the vessels. Volume velocity of blood flow.	Blood pressure. Arterial pulse. Blood cycle time. Systolic and minute blood volume. Methods for determining systolic and minute blood volume.	LO1 LO2	2/4/ 4	Preparation and protection of presentations.	Checklist for evaluating SIW.
14	<b>Anatomiya.</b> Lecture 4. Morphofunctional characteristics of the respiratory system organs.	The nasal cavity. The larynx. Trachea. The bronchi. Structure of the lungs. Branching of the bronchi. Segmental structure of the lungs. The pleura.	LO1	1	Review	Feedback (control questions)
	<b>Physiology.</b> Practical lesson 7	External breathing. Exchange of gases in the lungs.	LO1 LO2	2	discussion of the main issues of the topic, performing test tasks, solving	Oral survey, assessment of test tasks, assessment of

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	External breathing. Exchange of gases in the lungs.				situational problems.	solving situational problems
	<b>Basics of radiation diagnostics.</b> Practical lesson 3 Ventriculography Cardiac scintigraphy Magnetic resonance imaging. Multispiral computed tomography.	Aortography. Ventriculography Scintigraphy of the heart. Magnetic resonance imaging. Multispiral computed tomography.	LO1 1 LO2	1	discussion, working with the provided radiological images	oral survey, discussion of research results, solving situational problems, working with radiological images
	<b>Anatomy.</b> SIWT / SIW 4. Inferior vena cava: formation, tributaries, topography.	Inferior vena cava: formation, tributaries, topography.	LO1 LO2	2/4/ 4	-Preparation and defense of the presentation.  - implementation of the scheme of the course of the artery, veins and blood supply areas, venous outflow.	An oral survey.  Evaluation sheets for all forms of the completed task.
15	<b>Anatomy.</b> Practical lesson 8. Portal vein: formation, topography, tributaries.	Portal vein: formation, topography, tributaries.	LO1 LO2	1	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Introduction to the clinic.</b> Practical lesson 7. Study of the function of external respiration	Spirometry. Spirography. Peak flowmetry. Indications and contraindications. Indicators of the study of the function of external respiration in normal and pathological conditions. Algorithm of preparation for conducting research. Algorithm for conducting studies of external respiration functions	LO2 LO1 1	1	Performing test tasks, solving clinical problems, performing practical work	Checklist for evaluating practical classes
	<b>Biochemistry.</b> Practical lesson on	Features of metabolism in the lungs. Metabolism	LO1 LO2	1	seminar, situational tasks	Checklist for evaluating


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	metabolism in the lungs.					practical exercises.
	<b>Histology</b> of SIWT/SIW No. 3 Bronchi and bronchioles.	Lungs. Intrapulmonary airways: bronchi and bronchioles. Dependence of the structure of the bronchial wall and bronchioles on their caliber.	LO1, LO2	1/11	Working in small groups, defending a presentation, compiling a glossary.	Checklist for evaluating SIW
	<b>Biochemistry.</b> SIWT / SIW Surfactant system (phospholipids, proteins, polysaccharides)	Energy-dependent processes in the lungs. Surfactant system (phospholipids, proteins, polysaccharides)	LO1 LO2	2/3/3	presentation, analysis of scientific articles on the subject, glossary	Checklist for assessing SIW
16	<b>Fundamentals of radiation diagnostics.</b> Practical lesson 4 Radiation diagnostics of respiratory organs. Basic and additional research methods.	Radiation anatomy of the respiratory system and organs. Basic and additional research methods. The main radiological symptoms and syndromes of the lungs. Digital radiography Digital radioscopy Digital fluorography.	LO2 LO1 1	1	discussion, working with the provided radiological images	oral survey, discussion of research results, solving situational problems, working with radiological images
	<b>Histology.</b> Practical lesson #7 Topic: Respiratory department. Acinus of the lung.	Acinus as a morphofunctional unit of the lung. Structural components of the acinus. Structure of the alveolar wall. Types of pneumocytes, their histofunctional characteristics.	LO1, LO2	1	Rabota in small groups, checklist of histopreparation, histopreparations, micrographic	Checklist of practical lesson assessment.
	<b>Biochemistry.</b> Practical lesson	Gas exchange. Transport of carbon dioxide to the lungs.	LO1 LO2	1	seminar, testing	Checklist for evaluating a practical lesson.
	<b>Anatomy.</b> SIWT / SIW 5. Cava-caval and porto-caval anastomoses.	Cava-caval and porto-caval anastomoses.	LO1 LO2	2/3/3	-Preparation and defense of the presentation.  - implementation of the scheme of the course of veins and areas of venous outflow.	An oral survey.  Evaluation sheets for all forms of the completed task.
	<b>Physiology</b> of SIWT / SIW 4 Features of respiration in different conditions.	Breathing during muscle work. Breathing at low and high atmospheric pressure. Artificial respiration.	LO1 LO2	1/2/2	Preparation and protection of presentations.	Checklist for evaluating SIW.


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17	<b>Anatomy.</b> Practical lesson 9. Respiratory system organs: structure, topography, and functions.	The nasal cavity. paranasal sinuses. The larynx. Laryngeal cartilage. Laryngeal muscles. Laryngeal cavity. Age-specific features.	LO1, LO2	2	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or solving test and situational tasks	oral survey, assessment sheet for solving situational tasks, assessment sheet for completing test tasks
	<b>Histology.</b> Practical lesson#8 Topic: Aeroheumatic barrier. The pleura.	Aeroheumatic barrier and its significance in gas exchange. Macrophages of the lung. Blood supply and innervation of the lung. Regenerative potencies of the respiratory system. The pleura.	LO1, LO2	1	Work in small groups, gis checklist of topographical, micrographic	checklist of practical lesson assessment.
	<b>Histology.</b> SIWT/SIW4 Surfactant-alveolar complex.	Structural and chemical organization and function of the surfactant-alveolar complex. Structure of interalveolar partitions	LO1, LO2	1/33	Work in small groups, presentation protection, glossary compilation.	Checklist for SIW assessment
	<b>Introduction to the clinic.</b> SIWT / SIW 3. Clinical methods of examination of patients with respiratory diseases	General examination of a patient with respiratory diseases. Collecting anamnesis. The sequence of conducting a general examination of the patient: conditions, rules and techniques. Main complaints. Preparation of the patient for laboratory and instrumental research methods.	LO2 LO1 1	2/3/3	Working with electronic information resources. Preparation of a presentation, crossword puzzle, preparation of an intellectual map, preparation of test tasks. Demonstration of practical skills	Protection of presentations, crossword puzzles, smart cards, and test tasks. Assessment by checklist
18	<b>Physiology.</b> Practical lesson 8 Regulation of respiration.	Regulation of respiration. Respiratory center. The role of chemo and mechanoreceptors in the regulation of respiration.	LO1 LO2	1	discuss the main issues of the topic, perform test tasks, solve situational problems.	Oral survey, assessment of test tasks, assessment of solving situational problems



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	<b>Biochemistry.</b> Practical lesson Tissue respiration	Tissue respiration. Electron transport chain (ETS). Oxidative phosphorylation.	LO1 LO2	1	seminar, testing	Checklist for evaluating a practical lesson.
	<b>Introduction to the clinic.</b> Practical lesson 8. Cardiopulmonary resuscitation. Clinical and biological death. Rules for handling the corpse	Techniques of artificial ventilation and indirect heart massage. The Safar method. The concept of the patient's terminal condition. Stages of the terminal state and their main clinical manifestations. The concept of clinical and biological death. Signs of clinical death. The concept of resuscitation. Rules for handling a corpse. Psychological and infectious safety measures when handling a corpse. Transportation of the corpse to a special room for temporary storage.	LO2 LO8	1	Performing test tasks, solving clinical tasks, performing practical work	Checklist for evaluating practical classes
	<b>Anatomy.</b> SIWT / SIW 6 Pleura. The pleural cavity. Pleural sinuses. The mediastinum.	The pleura. Pleural leaflets. The pleural cavity. Sinuses. The mediastinum.	LO1 LO2	2/3/3	-Preparation and defense of the presentation	Oral survey.  Evaluation sheets for all forms of the completed task.
	<b>Fundamentals of radiation diagnostics</b> of SIWT/SIW Radiation diagnostics of large vessels. Dopplerography, principles of operation. Preparation of patients for research	Visual diagnostics of large vessels. Dopplerography, principles of operation. Preparation of patients for research	LO1 1 LO2	1/1.5	preparation of presentations, drawing up crosswords, test tasks, situational tasks, working with radiological images.	defending presentations, solving crosswords, test tasks, situational tasks, and working with radiological images.
19	<b>Anatomy.</b> Practical lesson 10. Respiratory system organs: structure, topography, and functions.	Trachea. The bronchi. Structure of the lungs. Branching of the bronchi. Segmental structure of the lungs. The pleura. Age-specific features.	LO1 LO2	2	work in small groups with anatomical preparations, torso, models, posters, on the interactive panel "Pirogov" and/or	oral survey,  assessment sheet for solving situational tasks, assessment sheet for

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					solving test and situational tasks	completing test tasks
	<b>Physiology.</b> SIWT/SIW5. Border control 2.	Consolidation of the completed material on the topics of lectures, practical classes, SIWT and SIW.	LO1 LO2	2/2, 5	Written response to tickets (situational tasks)	RC Assessment checklist

9.1	Lectures	Introductory and review lectures (Answers to control questions) Overview				
and illustrative 9.2	Practical classes	Working in small groups with anatomical preparations, torso, models, tables, tablets, posters, on the interactive panel "Pirogov", performing practical work, seminar, situational (clinical) tasks, pworking in small groups, filling out about a checklistof histopreparations, microphotographs, discussion, working with the provided radiological images, completing test tasks.				
9.3	SIWT / SIW	Consultation on the most difficult issues of the curriculum when performing SIW, working with educational literature, passing SIW in the form of:-Description of the anatomical preparation on the anatomical table "Pirogov". Preparation and defense of the abstract and presentation Work in small groups, compilation of a glossary,ese, analysis of scientific articles on the subject, compilation of crosswords, test tasks, situational tasks, work with radiological images, work with electronic information resources, preparation of an intelligent map.				
9.4	Boundary control	Written answer to questions of situationalx tasks				
10.10.1	Criteria for evaluating the results of the discipline					
10.1	No. LO	Name of training results	Unsatisfactory	Satisfactory	Good	Excellent
	LO1	-Olimit the-anatomical anatomical structure of the heart, lungs and blood vessels, as well as their functional olimitations.  -Omicroscopic structure of the tissues that make up the cardiorespiratory system.	- cannot accurately describe theanatomic structure and функциofunctionalнальные features of the heart, lungs, and blood vessels.  - it can't provide a description of the microscopic	-provides a basic description of the anatomy and основбасичных functions of the heart-ца, lungs, and blood vessels.  - provides a basic description of the microstructure of tissues, but with errors or omissions.	- describes in detail and accurately-the anatomical the anatomical structure and functional features  - provides a detailed and accurate description of the	It provides not only a detailed description of the anatomy, but also discusses the impact of these structures on overall human health. - demonstrates a deep understanding гистологииof tissue histology




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	<p>-anddisrupt the physiological processes that regulate blood circulation and respiration in normal conditions.</p> <p>-explain thebasic biochemical mechanisms that support the functioning of the heart and lungs.</p>	<p>structure of cardiorespirator y system tissues</p> <p>-it can't explain the basic physiological processes that regulate blood circulation and respiration.</p> <p>-can not provide an explanation of the main biochemical mechanisms that support the work of the heart and lungs.</p>	<p>- provides a general description of physiological processes, but without details or with errors.</p> <p>- provides a general description of biochemical processes, but without details or with errors.</p>	<p>microscopic structure of the tissues that make uphyio the cardiorespiratory system.</p> <p>- accurately and in detail describes the physiological processes that regulate blood circulation and respiration in normal conditions-</p> <p>accurately and in detail explains the main biochemical mechanisms that support the work of the heart and lungs.</p>	<p>and is able to explain their functional properties.</p> <p>- demonstrates a deep understanding of physiology and is able to explain complex regulatory mechanisms.</p> <p>- demonstratesa deep understanding of biochemical processes and is able to analyze their impact on the overall functioning of the body.</p>
LO2	<p>-ovalue the relationship between the structure and function of elements of the cardiorespiratory system.</p> <p>-nanalyze the mechanisms of regulation of blood circulation and respiration in response to changing physiological conditions.</p> <p>-evaluate theimportance of biochemical processes for maintaining the normal functioning of the cardiorespiratory system.</p>	<p>-cannot describe the relationship between the structure and function of the cardiorespirator y system elements.</p> <p>- cannot explain the mechanisms of regulation of blood circulation and respiration in response to changing physiological conditions.</p> <p>- cannot explain the importance of biochemical processes for maintaining the normal functioning of the cardiorespirator y system.</p>	<p>-demonstrates a basic understanding of the relationship between structure and function, but the description is incomplete or not accurate enough.</p> <p>- provides a basic analysis of regulatory mechanisms, but may miss some important aspects.</p> <p>- provides a basic understanding of the role of biochemical processes, but may not fully cover their significance.</p>	<p>-accurately describes the relationship between the structure and function of elements of the cardiorespiratory system, with examples.</p> <p>-demonstrates a complete understanding of the mechanisms of regulating blood circulation and respiration in response to various physiological conditions.</p> <p>- understands the importance of biochemical processes for the normal functioning of the cardiorespiratory</p>	<p>-provides an in-depth analysis of the relationship between the structure and function of the elements of the cardiorespirator y system system, substantiates its conclusions with scientific data.</p> <p>-analyzes the mechanisms of regulating blood circulation and respiration with a deep understanding, integrating knowledge from various fields of medicine.</p> <p>- provides an in-depth analysis of the significance</p>

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					system and can provide examples	of biochemical processes, demonstrating their role in regulating the function of the cardiorespiratory system at the molecular level
LO3	-apply knowledge of anatomy, histology, physiology and biochemistry to the analysis of clinical cases related to the cardiorespiratory system. - provide a basic assessment of кардиореспираторной the patient's cardiorespiratory system using visual diagnostics.	-Hdoes not demonstrate an understanding of basic aspects of anatomy, histology, physiology, and biochemistry when analyzing clinical cases. -Hne is able to perform a basic visual assessment of the state of the cardiorespiratory system.	-demonstrates a basic understanding of anatomy, histology, physiology, and biochemistry, but the application of this knowledge to clinical cases is limited. -Oprovides a basic visual assessment of the state of the cardiorespiratory system, but may miss some important details.	-shows а проявляет strong understanding of anatomy, histology, physiology and biochemistry in the analysis of clinical cases, represents the relationship between theory and practice. -pperforms a detailed visual assessment of the state of the cardiorespiratory system, detects the main anomalies and pathologies.	-Иit uses deep knowledge of anatomy, histology, physiology and biochemistry to analyze complex clinical cases, and offers innovative research approaches. -Иshows expert knowledge of visual diagnostics, detects even minor anomalies and pathologies, suggests further diagnostic measures	
LO4	-analyzes clinical symptoms and results of diagnostic studies to предварительно make a preliminary diagnosis of conditions of the cardiorespiratory system. - oevaluate the effectiveness of various visual diagnostic methods in the examination of patients with suspected diseases of the cardiorespiratory system.	- failed to analyze clinical symptoms and diagnostic results for making a preliminary diagnosis of cardiorespiratory system conditions, or provided an incomplete or incorrect analysis. - failed to evaluate the effectiveness of various visual diagnostic methods or	-conducted an analysis of clinical symptoms and diagnostic results, but not all aspects were taken into account or the analysis was not always adequate for предварительно making a preliminary diagnosis. - provided an assessment of the effectiveness of visual diagnostic methods, but the analysis was incomplete or insufficiently	- adequately analyzed the clinical symptoms and results of diagnostic studies, presented a reasonable preliminary diagnosis and explained their conclusions. - adequately evaluated the effectiveness of various methods of visual diagnostics, presented sound conclusions and gave examples	- conducted an in-depth and complete analysis of clinical symptoms and diagnostic results, presented a comprehensive and reasonable preliminary diagnosis, taking into account various possible options. - conducted an in-depth and complete analysis of the	

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			presented a superficial and insufficiently substantiated analysis.	justified.	from clinical practice.	effectiveness of various methods of visual diagnostics, presented a comprehensive overview of the strengths and weaknesses of each method.
	LO5	-to assess the state cardiorespiratory system, and the patient's cardiorespiratory system and offer recommendations for further examination based on the data obtained.	<p>-provided incomplete or inaccurate information about the state cardiorespiratory system and the patient's cardiorespiratory system.</p> <p>- precommendations for further examination are insufficiently substantiated or absent.</p>	<p>- provided basic information about the state cardiorespiratory system and the patient's cardiorespiratory system, but there are some shortcomings or inaccuracies.</p> <p>-precommendations for further examination are provided, but may not be fully justified.</p>	<p>- provided accurate and complete information about cardiorespiratory system and the patient's cardiorespiratory system status.</p> <p>- precommendations for further examination are justified and correspond to the clinical case.</p>	<p>- provided a high-quality analysis of cardiorespiratory system and the patient's cardiorespiratory system, including an assessment of all relevant parameters and risk factors.</p> <p>- precommendations for further examination are presented using the latest scientific data and clinical recommendations.</p>
	LO6	-communicate effectively with patients and colleagues, explain survey results and diagnostic procedures to them, and must develop independent learning and work skills, including the ability to independently search and analyze relevant scientific literature and medical research.	<p>- demonstrates a low level of communication skills and an inability to effectively explain the results of the examination to the patient or colleagues.</p> <p>-there is no effort to learn and work independently.</p>	<p>- communicates with patients and colleagues, but may be somewhat awkward or incomplete in his explanations.</p> <p>-there are some self-directed learning efforts, but they may be irregular or unstructured.</p>	<p>- effectively communicates with patients and colleagues, providing them with clear and informative explanations.</p> <p>- nthis is the average effort for independent learning, including searching and analyzing relevant scientific literature.</p>	<p>- shows a high level of communication skills, including the ability to effectively explain complex medical concepts.</p> <p>--active and structured efforts for independent learning and work, including systematic search and analysis of up-to-date scientific literature and</p>

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						medical research.
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<b>10.2 Criteria for evaluating teaching methods and technologies</b>			
<b>Checklist for practical training</b>			
Letter system score	Digital equivalent of points	Percentage content	Traditional system score
A	4.0	95-100	Excellent
A -	3,67	90-94	
B +	3.33	85-89	Good
B	3.0	80-84	
B -	2,67	75-79	
C +	2.33	70-74	
C	2.0	65-69	Satisfactory
C -	1,67	60-64	
D+	1.33	55-59	
D	1.0	50-54	
FX	0.55	25-49	Not satisfactory
F	0	0-24	

#### Oral response

Form of control	Evaluation	Assessment Evaluation criteria
Oral response	<b>Perfectly</b> Matches the grades: A (4.0; 95-100%); A- (3.67; 90-94%)	The student did not make any mistakes during the answer, was guided in the theories, concepts and directions of the studied discipline, gave them a critical assessment, and also used scientific achievements of other disciplines.
	<b>Well</b> Corresponds well to the estimates: B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)	The student did not make any gross mistakes during the answer, but made inaccuracies and unprincipled mistakes corrected by himself, and managed to systematize the program material with the help of the teacher.
	<b>Satisfactorily</b> Meets the following estimates:	The student made fundamental mistakes during the answer, limited himself only to the educational literature specified by the

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	C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)	teacher, and experienced great difficulties in systematizing the material.
	<b>Unsatisfactory</b> FX (0.55; 25-449%) F (0; 0-224%)	The student made gross mistakes during the answer, did not work through the main literature on the topic of the lesson, and failed to use scientific terminology on histology and physiology.

### Checklist for evaluating small group


Working in small groups	<b>Perfectly</b> Matches the following grades: A (4.0; 95-100%); A- (3.67; 90-94%)	Students assigned to a small group actively participated in the discussion of the main issues of the topic, at this time showed their logical thinking skills, and fully correctly answered questions during the discussion.
	<b>Well</b> Corresponds well to the estimates: B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)	Students assigned to the subgroup took an active part in the discussion of the main issues of the topic. During the discussion, they were able to solve the problem by making mistakes that were corrected by the students
	<b>of the subgroup</b> themselves. C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)	Students enrolled in a small group were passive in discussing the main issues of the topic, while students from a small group performed it using reference literature/sources, making weak and inconsistent mistakes.
	<b>Unsatisfactory</b> FX (0.55; 25-449%) F (0; 0-224%)	We couldn't find the correct answers to the main questions of the topic, didn't participate in the work of the group, made mistakes and inaccuracies, and didn't use scientific terminology when answering.

### Evaluation sheet

#### Criteria for evaluating the description of anatomical preparations

F.Full name of the student \_\_\_\_\_

№ Step number	Criteria for evaluating steps	Excellent 90-100 Gave a clear, comprehensive answer, correctly named organs in Latin and Greek	Good 70-89 Gave a fairly complete answer, but was confused in terminology; made minor inaccuracies	Satisfied 50-69 Partially completed the task: confused in the answer, did not give full names of anatomical structures	Failed 0-49 Failed the task: failed to name anatomical structures
1.	, the student recognizes the organ, gives its name in Latin, if necessary-in Greek	18-20	14-17,8	10-13,8	0-9,8
2.	The student describes the holotopy of the organ using professional terminology	18-20	14-17,8	10-13,8	0-9,8

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3.	The student describes the skeletotopy of the organ using professional terminology	18-20	14-17, 8	10-13,8	0-9. 8
4.	The student describes the organ syntopy using professional terminology	18-20	14-17,8	10-13,8	0-9,8
5.	Describes the anatomical structure of the organ.	18-20	14-17,8	10-13,8	0-9,8

The maximum score is 100. Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

### Completing test tasks (testing)

Form of control	Evaluation	Assessment Evaluation criteria
Completion of test tasks (testing)	<b>Perfectly</b> Matches the ratings of: A (4.0; 95-100%); A- (3.67; 90-94%)	The student completed 90-100% of the test tasks correctly.
	<b>Well</b> Corresponds well to the estimates: B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)	The student completed 75-89% of the test tasks correctly.
	<b>Satisfactorily</b> Meets the following estimates: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)	The student completed 50-74% of the test tasks correctly.
	<b>Unsatisfactory</b> FX (0.55; 25-449%) F (0; 0-224%)	The student completed less than 50% of the test tasks correctly.

### Solving situational (clinical) problems

Form of control	Evaluation	Assessment Evaluation criteria
Solving situational problems	<b>Perfectly</b> Matches the following assessments: A (4.0; 95-100%); A- (3.67; 90-94%)	He actively participated in solving situational problems, showed original thinking, showed deep knowledge of the material, and used scientific achievements of other disciplines in the discussion.
	<b>Well</b> Corresponds well to the estimates:	Actively participated in the work, showed knowledge of the material, made unprincipled inaccuracies or errors corrected by the student himself.



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	<p>B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)</p>	
	<p><b>Satisfactorily</b> Meets the following estimates: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)</p>	<p>When working in a group, he was passive, made inaccuracies and fundamental mistakes, and had great difficulties in organizing the material.</p>
	<p><b>Unsatisfactory</b> FX (0.55; 25-44%) F (0; 0-22%)</p>	<p>He did not take part in the work of the group, answering questions from the teacher, made fundamental mistakes and inaccuracies, and did not use scientific terminology in his answers.</p>

#### Assessment sheet

#### Criteria for assessing the mastery of practical skills

Full name of the student \_\_\_\_\_

n/p	a Step Evaluation Criteria	Level			
		Excellent 90-100	Good 70-89	Success 50-69	Failure 0-49
1.	Correct location of the organ on the torso, skeleton and on a living person	18-20	14-17,8	10-13,8	0-9,8
2.	The student must give the full name of the organ and describe its general structure	18-20	14-17,8	10-13,8	0-9,8
3.	The student should name the structural elements of this organ.	18-20	14-17,8	10-13,8	0-9,8
4.	After listing the structural elements of the organ, the student should show it on posters, tablets and give a description of it.	18-20	14-17,8	10-13,8	0-9,8
5.	During the description of the organ and its structural elements, the student should mention the age-related features of the organ	18-20	14-17,8	10-13,8	0-9,8

The maximum score is 100. Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

#### Evaluation sheet


#### Criteria for evaluating the implementation of the scheme (arterial movements)

Full name of the student \_\_\_\_\_

n/p	a Step evaluation criteria	Level
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The maximum score is 100. Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

#### Evaluation sheet

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		of Excellen ce but 90-100	Good 70-89	Udovl Good 50- 69	Bad 0-49
1.	The student must correctly find and draw a diagram of the arterial	passages 18-20	14-17,8	10-13,8	0-9,8
2.	The student must give the full name of the arteries in Latin.	18-20	14-17,8	10-13,8	0-9,8
3.	The trainee must correctly indicate the topography, projection of the arteries	18-20	14-17,8	10-13,8	0-9,8
4.	Must list all branches of the arteries	18-20	14-17,8	10-13,8	0-9,8
5.	The student must specify the areas of blood supply	18-20	14-17,8	10-13,8	0-9,8

**Criteria for evaluating a presentation in multimedia format**

F.Full name of the student \_\_\_\_\_

№	Criterion no	. Level, score in points			
		excellent 90-100	good 70-89	success 50-69	failure 0-49
1.	Availability of a title slide with a title, a presentation plan, a sufficient number of slides, a list of references and Internet sources.	9-10	7-8,9	5-6,9	0-4,9
2.	Correspondence of the presentation content to the topic and tasks set.	9-10	7-8,9	5-6,9	0-4,9
3.	Arrange the slides in a logical sequence.	9-10	7-8,9	5-6,9	0-4,9
4.	Style of presentation of the material (conciseness, clear wording, structure).	9-10	7-8,9	5-6,9	0-4,9
5.	Use of modern sources of information in sufficient quantity.	9-10	7-8,9	5-6,9	0-4,9
6.	Ability to generalize the material, make clear and clear conclusions.	9-10	7-8,9	5-6,9	0-4,9
7.	The level of orientation in the presentation material.	9-10	7-8,9	5-6,9	0-4,9
8.	Ability to report clearly, competently, and consistently.	9-10	7-8,9	5-6,9	0-4,9
9.	Ability to defend your position and respond constructively to criticism.	9-10	7-8,9	5-6,9	0-4,9
10	The quality of slide design (colorful, visual, etc.) .9	-10	7-8,9	5-6,9	0-4,9


**The maximum score is 100.** Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

**Evaluation sheet**

**Evaluation criteria for X ray image description**

Student's full name \_\_\_\_\_



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n/p	a Step Evaluation Criteria	Level			
		Excellent 90-100	Good 70-89	Success 50-69	Failure 0-49
1.	The student must correctly identify the research area	22,5-25	17,5-22,25	12,5-17,25	0-12,25
2.	The student must correctly determine the projection of the image (front, side, back).	22,5-25	17,5-22,25	12,5-17,25	0-12,25
3	The trainee must correctly indicate the anatomical structures of the bone or joints	being examined 22,5-25	17,5-22,25	12,5-17,25	0-12,25
4.	The trainee should be able to determine the age characteristics of the organ under study.	22,5-25	17,5-22,25	12,5-17,25	0-12,25

**The maximum score is 100.** Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

#### Checklist for evaluating a practical histology class


no.	Assessment criteria	Level			
		Excellent	Well	Satisfied but	Failed
1	Answers questions of the individual <b>Quizizz test</b>	40	28	20	0
2	Answers questions of the oral survey (small groups)	20	14	10	0
3	Fills in tables	20	14	10	0
4	Performs situational tasks	20	14	10	0
	Total:	100	70	50	0

#### Evaluation sheet Evaluation criteria for X ray image description

Student's full name \_\_\_\_\_

n/p	a Step Evaluation Criteria	Level			
		Excellent 90-100	Good 70-89	Success 50-69	Failure 0-49
1.	The student must correctly identify the research area	22,5-25	17,5-22,25	12,5-17,25	0-12,25
2.	The student must correctly determine the projection of the image (front, side, back).	22,5-25	17,5-22,25	12,5-17,25	0-12,25
3	The trainee must correctly indicate the anatomical structures of the bone or joints	being examined 22,5-25	17,5-22,25	12,5-17,25	0-12,25
4.	The student should be able to determine the age characteristics of the organ under study.	22,5-25	17,5-22,25	12,5-17,25	0-12,25

**The maximum score is 100.** Total points \_\_\_\_\_ Teacher's signature \_\_\_\_\_

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### Written response to X-ray assessment questions


#	Evaluation criteria	Scores
1	The student showed original thinking, showed deep knowledge of the material, and used scientific achievements from other disciplines in the answer. I used scientific terminology.	27-30
2	The student showed knowledge of the material, made unprincipled inaccuracies corrected by the student himself. I used scientific terminology.	21-26
3	The student made inaccuracies and unprincipled mistakes during the answer, used scientific terminology, had great difficulties in systematizing the material, and needed the help of a teacher.	15-20
4	The student did not answer the teacher's questions, made fundamental mistakes and inaccuracies, and did not use scientific terminology in their answers.	0-14

### Performing laboratory work on physiology

#	Evaluation criteria	Scores
1	Completed practical and laboratory work in a timely manner and submitted reports on them without any errors, took an active part in the discussion of the results of the work, made reasonable conclusions, showed original thinking	27-30
2	Completed practical and laboratory work in a timely manner and submitted reports on them without any fundamental comments, took an active part in the discussion of the results of work	21-26
3	Completed practical and laboratory work in a timely manner and submitted reports on them. During the work, he was not active, needed the help of a teacher	for 15-20
minut es, did	not pass reports on practical work in time, made fundamental mistakes in their implementation. I did not complete all the practical work provided for in the program. Did not participate in the discussion of the results of the work.	0-14

### Practical skills on introduction to the clinic

Form of control	Evaluation	Assessment Evaluation criteria
Practical skills	Perfectly Matches the points: A (4.0; 95-100%) A- (3.67; 90-94%)	The student has excellent practical skills: he knows the method of performing practical skills quite accurately, has sufficient skills in patient care.
	Good match for scores: B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)	The student has good practical skills: he does not know the method of performing practical skills accurately enough, he has sufficient skills in patient care.

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	Satisfactorily Corresponds to the following points: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.0; 50-54%)	The student has satisfactory practical skills: he knows the main provisions of the methodology for performing practical skills, but performs patient care skills with gross errors.
	Unsatisfactorily Corresponds to the scores FX (0.5; 25-49%) F (0; 0-24 %)	The student does not have a sufficient level of practical skills (does not know and is not able to apply the skills of patient care).

#### Analysis of scientific articles:

#	Evaluation criteria	Points
1	The work was completed accurately and submitted on time, written independently on at least 3 pages of printed text. Thoughts on the problem are presented clearly and well-reasoned. In the text of the work, references to authors are indicated everywhere. When protecting the work, the text does not read, but tells. Confidently and accurately answers all the questions asked. The paper uses only articles from no more than 5 years ago.	27-30
2	The work was completed accurately and submitted on time, written independently on at least 3 pages of printed text. Thoughts on the problem are clearly stated, but without arguments. In the text of the work, references to authors are indicated everywhere. When protecting the work, the text does not read, but tells. When answering questions, it makes unprincipled mistakes. The paper uses only articles from no more than 5 years ago.	21-26
3	The work was completed accurately and submitted on time, written independently on at least 2 pages of printed text. Thoughts on the problem are presented in a scattered manner, without arguments. In the text of the work, references to authors are not indicated everywhere. When protecting the work, the text reads. Hesitantly answers questions, makes fundamental mistakes. The paper uses only articles from more than 5 years ago.	15-20
4	The work is written in less than 2 printable texts. Thoughts are presented in a scattered manner, without arguments. There are no references to the authors in the text of the work. When protecting the work, the text reads. When answering questions, he makes gross mistakes and doesn't know his way around the material. The paper uses only articles from more than 5 years ago.	0-14


#### Preparation of a written creative work (essay)

№	Evaluation criteria	Points
1	The content of the work fully corresponds to the topic; the topic is revealed in a deep and reasoned manner. With a triple composition, logical and consistent presentation of thoughts. The essay problem is clearly formulated. There are no actual errors. The	27-30

	conclusion contains conclusions that logically follow from the content of the main part.	
2	Quite fully and convincingly reveals the topic with minor deviations from it. The thesis corresponding to the topic of the essay is clearly formulated. In the main part, it is logical, connected, but insufficiently fully proves the thesis put forward, there are isolated factual inaccuracies.	21-26
3	A correct but one-sided or incomplete answer to the topics is given. Emitted deviations from it or individual errors in the presentation of factual material. The material is presented quite logically, but there are some violations of the sequence of expression of thoughts. Conclusions do not fully correspond to the content of the main part	15-20
4	The topic is completely undisclosed, which indicates a superficial knowledge. It is characterized by a random arrangement of the material, lack of communication between the parts. It differs in the presence of gross speech errors.	0-14

Form of control	Evaluation	Rating Evaluation criteria
Working with the provided images	Perfectly Matches the ratings: A (4.0; 95-100%); A- (3.67; 90-94%)	Selects the optimal method of radiation examination. Defines a complete list of indications and contraindications for radiation testing. Tells and shows the X-ray anatomy of the studied area, the projection of the image.
	Well corresponds to the estimates: B+ (3.33; 85-89%); B (3.0; 80-84%); B- (2.67; 75-79%); C+ (2.33; 70-74%)	Selects the optimal method of radiation examination. When determining the indication and contraindication to radiation testing, it makes minor errors. Determines the X-ray anatomy of the studied area, the projection of the image.
	Satisfactorily Meets the following estimates: C (2.0; 65-69%); C- (1.67; 60-64%); D+ (1.0; 50-54%)	Selects the optimal method of radiation examination. When determining the indication and contraindication to radiation testing, it makes gross mistakes. Determines the X-ray anatomy of the examined area not in full.
	Unsatisfactorily Corresponds to the rating: FX (0.5; 25-49%); F (0; 0-24 %)	Can't find the optimal radiotherapy method. When determining the indication and contraindication to radiation testing, it makes gross mistakes. When determining the X-ray anatomy and projection of the image, it makes gross errors.

Form of control	Evaluation	Assessment Evaluation criteria
Crossword	<b>Puzzle Perfectly</b> Matches the grades: A (4.0; 95-100%); A- (3.67; 90-94%)	It is set if the student has composed 7 or more words, the words fit together 4 or more times, there are no errors in the crossword questions, the questions are composed correctly, logically and determine the required answer, and the design meets the requirements.

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	<p style="text-align: center;"><b>Well</b></p> <p style="text-align: center;">Matches well with the following grades:</p> <p>B+ (3.33; 85-89%); B (3.0; 80-84%); B- (2.67; 75-79%); C+ (2.33; 70-74%);</p>	Set if the student has completed a 7-word crossword puzzle, the words fit together 3 times, in crossword questions there are no fundamental errors, the questions are written correctly, but there are minor inaccuracies, and the design meets the requirements.
	<p style="text-align: center;"><b>Satisfactorily</b></p> <p style="text-align: center;">Meets the following estimates:</p> <p>C (2.0; 65-69%); C- (1.67; 60-64%); D+ (1.0; 50-54%); D-(1.0; 50-54%)</p>	It is set if the student has completed a 7-word crossword puzzle, the words fit together 2 times, and there are inaccuracies or errors in the crossword questions.
	<p style="text-align: center;"><b>Unsatisfactorily</b></p> <p style="text-align: center;">Corresponds to the assessment of FX (0.5; 25-49%); F (0; 0-49%)</p>	This is set if the student has completed a crossword puzzle with less than 7 words, and the words fit together less than 2 times (or do not fit together). There are fundamental, gross errors in the crossword questions.

#### Checklist for evaluating SIW in histology

#	Evaluation criteria	Level			
		Excellent	Well	Satisfied	Notbad
1	Evaluation of histological micropreparation protection	40	28	20	0
2	Evaluation of electronic micrography protection	40	28	20	0
3	Glossary compilation evaluation	20	14	10	0
	Total:	100	70	50	0

#### Preparation and protection of histological micro-preparations and micrographs

Form Control form	Evaluation	Evaluation Evaluation criteria
Preparation and protection of the presentation of histological micro-preparations and micrographs	<p style="text-align: center;"><b>Perfectly</b></p> <p style="text-align: center;">Matches the ratings of:</p> <p>A (4.0; 95-100%); A- (3.67; 90-94%)</p>	The student prepared a presentation of 3 micro-preparations and 3 microphotographs on the topic at the appointed time, independently, accurately, with a volume of at least 6 informative tables, using at least 5 literary sources and having a detailed plan, provided diagrams, tables and figures corresponding to the topic, demonstrated deep knowledge of the topic during the defense and answered all the questions correctly questions asked.
	<p style="text-align: center;"><b>Well</b></p> <p style="text-align: center;">corresponds to the grades:</p> <p>B+ (3.33; 85-89%); B (3.0; 80-84%); B- (2.67; 75-79%); C+ (2.33; 70-74%);</p>	The student prepared a presentation of 3 micro-preparations and 3 microphotographs on the topic at the appointed time, independently, accurately, with a volume not exceeding at least 6 informative tables, using at least 5 literary sources and having a detailed plan, provided diagrams, tables and figures corresponding


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		to the topic, demonstrated good knowledge of the topic during the defense, and made minor mistakes when answering questions.
	<b>Satisfactorily</b> Meets the following estimates: C (2.0; 65-69%); C- (1.67; 60-64%); D+ (1.0; 50-54%); D-(1.0; 50-54%)	The student prepared a presentation of 3 micro-preparations and 3 microphotographs on the topic at the appointed time, independently, but inaccurately, with a volume of at least 6 informative tables, using less than 5 literary sources and the presence of an undeveloped plan, provided an insufficient number of diagrams, tables and figures corresponding to the topic, while defending hesitantly answered questions, made fundamental mistakes.
	<b>Unsatisfactorily</b> Corresponds to the assessment of FX (0.5; 25-49%); F (0; 0-49%)	The student did not prepare a presentation of 3 micro-preparations and 3 microphotographs on the topic at the appointed time, or prepared it at the appointed time, but not independently, inaccurately, with a volume of less than 6 informative tables, without specifying literary sources, in the absence of a plan, when answering questions, made gross mistakes or could not answer questions and did not defend the work.

#### Checklist for border control Control

Form of control	Evaluation	Assessment Evaluation criteria
<b>Written ticket survey (clinical tasks) and testing</b>	Perfectly Matches the scores: A (4.0; 95-100%) A- (3.67; 90-94%)	This is set if the student did not make any mistakes or inaccuracies during the response. Focuses on the theories, concepts and directions of the discipline being studied and gives them a critical assessment. Completing test tasks by 90-100%.
	Good match for scores: B+ (3.33; 85-89%) B (3.0; 80-84%) B - (2.67; 75-79%) C+ (2.33; 70-74%)	It is put in the event that the student did not make any gross mistakes in the answer, made unprincipled inaccuracies or fundamental errors corrected by the student himself, and managed to systematize the program material with the help of the teacher. Performs 70-89% of test tasks.
	Satisfactorily Corresponds to the following points: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.0; 50-54%)	It is put in the event that the student made inaccuracies and unprincipled mistakes during the answer, was limited only to the educational literature specified by the teacher, and had great difficulties in systematizing the material. Performs 50-69% of test tasks.
	Unsatisfactorily Corresponds to the scores FX (0.5; 25-49%) F (0; 0-24 %)	It is put in the event that the student made fundamental mistakes during the answer, did not work through the main literature on the topic of the lesson, does not know how to use the scientific terminology of the discipline, answers with




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		gross stylistic and logical errors. Performs 0-49% of test tasks.
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11. Training resources	
Electronic resources	<ol style="list-style-type: none"> <li>1. SKMA Repository <a href="http://lib.ukma.kz/repository/">http://lib.ukma.kz/repository/</a> Республиканская</li> <li>2. interuniversity electronic library <a href="http://rmebrk.kz/">http://rmebrk.kz/</a></li> <li>3. Консультант студента <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a></li> <li>4. Ашық кітапхана <a href="https://kitap.kz/">https://kitap.kz/</a></li> <li>5. <a href="http://t.me/AkzharkynGaukhar">http://t.me/AkzharkynGaukhar</a></li> <li>6. Умный медик YouTube <a href="https://goo.gl/zSzozD">https://goo.gl/zSzozD</a></li> <li>1. <a href="https://meduniver.com/Medical/Video/predmet_metodi_istoria_gistologii.html">https://meduniver.com/Medical/Video/predmet_metodi_istoria_gistologii.html</a></li> <li>2. <a href="https://meduniver.com/Medical/Video/citologia.html">https://meduniver.com/Medical/Video/citologia.html</a></li> <li>3. <a href="https://meduniver.com/Medical/Video/lekcia_po_citologii.html">https://meduniver.com/Medical/Video/lekcia_po_citologii.html</a></li> <li>4. <a href="https://meduniver.com/Medical/Video/lekcia_po_embriologii.html">https://meduniver.com/Medical/Video/lekcia_po_embriologii.html</a></li> <li>5. <a href="https://meduniver.com/Medical/Video/razvitie_ploda_i_stroenie_placenta.html">https://meduniver.com/Medical/Video/razvitie_ploda_i_stroenie_placenta.html</a></li> <li>6. <a href="https://meduniver.com/Medical/Video/gistologia_epitelialnix_tkanei.html">https://meduniver.com/Medical/Video/gistologia_epitelialnix_tkanei.html</a></li> <li>7. <a href="https://meduniver.com/Medical/Video/gistologia_rizloi_voloknistoi_tkani.html">https://meduniver.com/Medical/Video/gistologia_rizloi_voloknistoi_tkani.html</a></li> <li>8. <a href="https://meduniver.com/Medical/Video/gistologia_sobstvenno_soedinitelnykh_tkanei.html">https://meduniver.com/Medical/Video/gistologia_sobstvenno_soedinitelnykh_tkanei.html</a></li> <li>9. <a href="https://meduniver.com/Medical/Video/osteogenez_i_xondroogenez.html">https://meduniver.com/Medical/Video/osteogenez_i_xondroogenez.html</a></li> <li>10. <a href="https://meduniver.com/Medical/Video/gistologia_epitelialnix_i_gelezistix_tkanei.html">https://meduniver.com/Medical/Video/gistologia_epitelialnix_i_gelezistix_tkanei.html</a></li> <li>11. Веб-сайт ЮКМА:</li> <li>12. <a href="https://ukma.kz">https://ukma.kz</a></li> <li>13. Electronic resources</li> <li>14. Normalnaya fiziologiya [Normal physiology]: textbook / ed. by B. I. Tkachenko. - 3rd ed., ispr. and dop. - Electron. text messages. (53,1 Mb). - Moscow: GEOTAR-Media, 2017. - e-opt. disk</li> </ol>




<p style="text-align: center;">             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p style="text-align: center;">               SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
<p style="text-align: center;">             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>		<p>044-42/11 044-46/11 044-70/11 044-75/11</p>
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<p style="text-align: center;">              SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>	
<p style="text-align: center;">             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>	<p>044-42/11</p> <p>044-46/11</p> <p>044-70/11</p> <p>044-75/11</p>
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Electronic textbooks	<p>1. Bilich, G. L. <b>Human anatomy</b>. Atlas. In 3 vols. Vol. 1. Musculoskeletal system. Osteology. Syndesmology. Myologiya [Electronic resource]: textbook-Moscow: GEOTAR-Media, 2013.</p> <p>2. Bilich, G. L. <b>Human anatomy</b>. Atlas. In 3 vols. Vol. 2 [Electronic resource]: Moscow: GEOTAR-Media, 2013.</p> <p>3. Bilich, G. L. <b>Human anatomy</b>. Atlas. V. 3 vol. Vol. 3 [Electronic resource]: textbook Moscow: GEOTAR-Media, 2013.</p> <p>4. АНАТОМ <b>Human anatomy</b>. In 2 vols. Vol. 1 [Electronic resource] : textbook Moscow: GEOTAR-Media, 2013.</p> <p>5. АНАТОМ <b>Human anatomy</b>. In 2 vols. Vol. 2 [Electronic resource] : textbook - Moscow : GEOTAR - Media, 2013.1</p> <p>. Histology, embryology, cytology [Electronic resource]: textbook / ed.by Yu. I. Afanasyev. - Electron. text messages. (41.1 Mb). Moscow: GEOTAR-Media, 2016. 800 p.</p> <p>2. Histology. Complex tests: answers and explanations [Electronic resource]: textbook / ed. by S. L. Kuznetsov. - Electron. text messages. (41.1 Mb). - М. : GEOTAR - Media, 2014. - 288 p</p> <p>. 3. Histology [Electronic resource] : textbook / S. Yu. Vinogradov. - Electron. text messages. (39.6 Mb). - М.: GEOTAR-Media, 2014. - 184 p</p> <p>. 4. Histology. 1 – бөлім [Электронный ресурс] : оқулық. - Electron. text data (13.1 Mb). - [B. M. : B. I.]. - electronic wholesale disk (CD-LOM).</p> <p>5. Histology. Atlas dlya prakticheskikh uchastiya [Atlas for practical classes]: textbook / N. V. Boychuk [et al.]. - Electron. text messages. (131 MB). - Moscow: Publishing group "GEOTAR-Media", 2010. - 160 p. e. opt. disk (CD-LOM).</p> <p>1. SKMA Repository <a href="http://lib.ukma.kz/repository/">http://lib.ukma.kz/repository/</a></p> <p>2. Republican Interuniversity Electronic Library <a href="http://rmebrk.kz/3">http://rmebrk.kz/3</a></p> <p>. Student's advisor <a href="http://www.studmedlib.ru/4">http://www.studmedlib.ru/4</a></p> <p>. Open University of Kazakhstan <a href="https://openu.kz/kz">https://openu.kz/kz</a></p> <p>5. Law (access in the reference and information sector) <a href="https://zan.kz/ru">https://zan.kz/ru</a></p> <p>6. Paragraph <a href="https://online.zakon.kz/Medicine/Научная">https://online.zakon.kz/Medicine/Научная</a></p> <p>7. electronic library <a href="https://elibrary.ru/Ашык">https://elibrary.ru/Ашык</a></p>

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<p style="text-align: center;">              SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>	
<p style="text-align: center;">             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>	<p>044-42/11</p> <p>044-46/11</p> <p>044-70/11</p> <p>044-75/11</p>
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	<p>8. kitaphana  <a href="https://kitap.kz/Thomson">https:// kitap.kz/Thomson</a></p> <p>9. Reuters "Web of Science" <a href="http://www.webofknowledge.com">www.webofknowledge.com</a></p> <p>10. Scopus  <a href="https://www.scopus.com/">https://www.scopus.com/</a></p> <p>11. Sciencedirect  <a href="http://www.sciencedirect.com/">http://www.sciencedirect.com/</a> 12. Биохимия          [Electronic resource] : textbook for universities / ed. by E. S. Severin. - 5th ed., ispr. and dop. - Electron. text messages. ( 66,3 Mb). - Moscow: GEOTAR-Media, 2013. - 768 p. e. opt. disk (CD-LOM).</p> <p>13. Biochemistry [Electronic resource]: textbook / ed. by E. S. Severin. -5th ed. - Electron. text messages. (66,4 MB). - Moscow: Publishing group "GEOTAR-Media", 2011. - 768 p. e. opt. disk (CD-LOM)</p> <p>14. Tapbergenov S. O. Medical and clinical biochemistry / Tapbergenov S. O. 2020.-512 p. <a href="https://www.elib.kz/ru/search/read_book/429/1">https://www.elib.kz/ru/search/read_book/429/1</a></p> <p>.Radiation diagnostics of diseases Bekmuratov E. B. et al.; Ministry of Health and Social Development of the Republic of Kazakhstan. SKSFA. - Electron. text messages. - Shymkent : [B. I.], 2016. - electronic wholesale disk (CD-LOM) (8.91 Mb)</p> <p>2. Сәулелі диагностика [Электронный ресурс] : оқулық / қазақтіл. ауд. А. Б. Ахметбаева ; ред. басқ. Г. Е. Труфанов. - Electron. text messages. (421Mb). - М. : GEOTAR - Media, 2014. - 576b. p</p> <p>. 3. Pathomorphology and radiation diagnostics of some non-inflammatory lung diseases in premature newborns          Serikbay M. K., 2020 /<a href="https://aknurpress.kz/login">https:// aknurpress.kz / login</a></p> <p>2. Differential diagnosis and treatment of tuberculosis in adults and children. Bekembayeva G. S., Zhandarkulov A. A., 2018 /<a href="https://aknurpress.kz/login">https:// aknurpress.kz / login</a></p> <p>6. Diagnosis and treatment of respiratory diseases.          Imangazina S. S., 2016 /<a href="https://aknurpress.kz/login">https:// aknurpress.kz/login</a></p> <p>7. Radiation therapy: Textbook. / Edited by G. E. Trufanov, 3rd ed., reprint. Moscow: GEOTAR-Media Publ., 2018, 484 p. <a href="http://rmebrk.kz">http://rmebrk.kz</a></p> <p>1. Aryngazin, K. Sh., Mazhimova, M. B.          First pre-medical care in case of accidents : Educational and methodical manual. / Comp. by K. Sh. Aryngazin. - Pavlodar: Kereku, 2013. - 73 p. <a href="http://rmebrk.kz/">http:// rmebrk. kz/</a></p> <p>2. S. Kabiyeva Introduction in clinic: Textbook, volume I.-Almaty: 2020-263 p. <a href="https://elibr.kz/ru/search/read_book/324/">https:// elibr.kz / ru / search/read_book/324/</a></p> <p>3. Kabiyeva S. M. Introduction to the clinic: Tutorial. Volume I. / S. M. Kabiyeva. Almaty: Evero Publ., 2020. -304 s  <a href="https://www.elib.kz/ru/search/read_book/316/">https://www.elib.kz/ru/search/read_book/316/</a> Лабораторные</p>
physical resources	<p>Skeleton, set of bones, models, torso, electronic tablets, interactive anatomical table "Pirogova", anatomical panel "Pirogova"</p> <p>Microscopes, a set of micro-preparations, and an atlas of microphotographs.</p> <p>Models, Sivtsev table, Forster perimeter, electrocardiograph, tonometer, phonendoscope, Sali hemometer.</p> <p>Biochemical analyzer, spectrophotometers, reagent kit, test tubes</p> <p>Simulators of the Practical Skills Center</p>
Literature	<i>Main Literature:</i>

<p style="text-align: center;">             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>	
<p style="text-align: center;">              SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>	
<p style="text-align: center;">             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>	<p style="text-align: center;">             044-42/11              044-46/11              044-70/11              044-75/11           </p>
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<p style="text-align: center;">             Department of Morphophysiology              Department of Biology and Biochemistry              Department of Phthisiopulmonology and Radiology              Department introduction to the clinic           </p>	<p>044-42/11</p> <p>044-46/11</p> <p>044-70/11</p> <p>044-75/11</p>
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7. Hammer , Gary D. Pathophysiology of Disease: An Introduction to Clinical Medicine / Gary D. Hammer . - 7nd ed. - New York : Mg Graw Hill. Education, 2014. - 762 p.

**12. Discipline policy**

Requirements for students:

- do not be late for classes;
- do not skip classes without good reasons;
- have anatomical gloves, tweezers and scalpel;
- be active during practical classes;
- be able to work in a team;
- perform and pass SIW on time, on schedule;
- do not engage in extraneous activities during classes;
- be tolerant, open and friendly to fellow students and teachers\*
- comply with ethical standards of behavior when working with anatomical preparations and organs of the human body;
- take care of the property of the department;
- work out missed classes in a timely manner for good reasons;

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12. observe safety precautions in the classroom.

13. During lectures / practice sessions/Students are not allowed to:

14. use mobile devices / gadgets;

15. leave the classroom/classroom (leave the workplace at the clinical / industrial base) without the teacher's permission.

### **Requirements for the dress code**

The student must:

1. have a clean, ironed medical gown, cap/cap;

2. have a neat hairstyle, short-cropped nails; (for girls: bright makeup and bright nail polish are not allowed).

### **Penalties:**

1. In case of a single violation of the module policy, the student receives an oral warning from the teacher.

2. In case of repeated violations of the module policy, the student provides an explanatory note addressed to the head of the department.

3. In case of systematic violation of the discipline policy, the head of the department submits an appropriate report to the dean's office.

- A student who failed to show up for a border control without a valid reason and received an unsatisfactory grade for one of the types of controls (RC1, RC2, TKsr) is not allowed to take the exam in the discipline; A student who did not show up for a border control for a valid reason, immediately after starting classes, with the permission of the dean's office, receives a work sheet.
- For 1 pass of lectures, for a disrespectful reason, the staff score is 1.0 points and is taken away from the border control assessments.
- For 1 pass of the SIWT, for no valid reason, the penalty point is 2.0 points and is deducted from the SIW ratings
- Incentive points are taken into account according to the department's policy. Reward points are added to the assessment of the border control. For active participation in the work of the SNC and seminars in each discipline, the student is awarded an incentive point from 5 to 10.


If students do not reach 50% of the current rating (i.e. 30 points), they are not allowed to take the final control (exam).

Pre-announced requirements for students, attendance, behavior, grading policies, penalties, incentive measures, etc.

### **The student must:**

- comply with medical ethics and deontology;
- don't smoke at the academy.
- keep the department clean;
- do not spoil the furniture in classrooms.
- treat textbooks with care;
- observe the appearance of a medical school student;
- observe safety regulations;
- wear masks during a flu epidemic;
- don't skip classes without a valid reason.
- work out classes that are missed for a valid reason in a timely manner, but only if the dean's office has access and at the time specified by the teacher;
- don't be late for classes.
- have the necessary documentation in the classroom: syllabus, guidelines for classes, lectures, notebook and textbook;
- prepare for classes in good faith;
- be active during classes.
- do not engage in extraneous activities during classes: do not talk, do not smoke, do not chew chewing gum, do not eat, do not use the phone, do not listen to music, do not read newspapers and magazines, do not prepare for classes in another discipline.
- observe silence and order during breaks.



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perform and submit SIWs in a timely manner on schedule (in electronic form); with verification of written works for plagiarism.

**Penalties for non-fulfillment of work sections:**

- if you miss lectures without a valid reason, the assessment of the border control decreases – 1 point for each missed lecture;
- if you skip the SIWT without a valid reason, the score for the SIW decreases – 2 points for each missed lesson.
- in case of late delivery of the SIW without a valid reason (later than the specified week) SIW is not accepted.
- in case of a single violation of the discipline policy, a warning is issued to the student;
- in case of systematic violation of the discipline policy, information about the student's behavior is transmitted to the dean's office of the faculty;

**Criteria for non-admission to the final control**


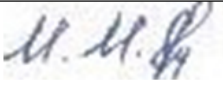
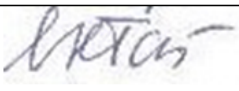
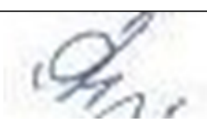
- a student who received an unsatisfactory rating for one of the types of controls (border control 1, border control 2, average rating of the current control) is not allowed to take the final control in the discipline.

<b>13.</b>	<b>Academic policy based on the moral and ethical values of the Academy</b>
	<a href="http://www.ukma.kz">www.ukma.kz</a> <a href="http://SCMA.ukma.kz">SCMA.ukma.kz</a> Regulations and Rules. Academic policy.
	Item 4 Student's Code of Honor
	Item 10. Organization of the educational process
	<p>.12. Grading policy</p> <p><b>Final control</b>-students who have fully mastered the discipline program and scored an admission rating are allowed to take the exam.</p> <p>The final score is calculated automatically based on the average score of the current control, the average score of border controls, and the final control score:</p> <p>Admission rating (60%) = average score of border controls (20%) + average score of current controls (40%)</p> <p>Average score of border controls = <math>PK1 + PK2 / 2</math></p> <p>Average score of current control = arithmetic mean sum of current scores, taking into account the average score for SIW and penalty points.</p> <p>Final score (100%) = <math>RKsr \times 0.2 + TKsr \times 0.4 + IR \times 0.4</math></p> <p>Final score (100%) = Admission rating (60%) + Final control (40%)</p> <p><b><u>Example of calculating a student's final grade:</u></b></p> <p>Penalty points:</p> <p>For example, a student skipped 2 lectures = <math>1.0 \times 2 = 2.0</math> points</p> <p>For skipping 1 SIWT = 2.0 points</p> <p>RC 1-80 points</p> <p>RC 2 – 90 points</p> <p><math>RKsr = (80-2)+90 = 84</math> points</p> <p>2</p> <p>Arithmetic mean of the current control (prak. and lab. classes) - 80 points</p> <p>SIW</p> <p>1-75 points SIW 2-85 points</p> <p>SIWN... – number of SIWs</p> <p>Average score for SIW = <math>\frac{75 + 85 + N...}{2} = 80</math> points</p> <p>+ N...</p> <p>Average current score including SIW and penalty points:</p> <p><math>TKSr* = \frac{TKsr + SIWsr}{2} - Csr = \frac{80 + (80 - 2.0)}{2} = \frac{158}{2} = 79,0</math></p> <p>Admission Rating (60%) = <math>RKsr \times 0.2 + TKsr \times 0.4 = 84 \times 0,2 + 79,0 \times 0,4 = 16,8 + 31,6 = 48,4</math></p> <p>Final control (40%), for example, the student answered 45 questions correctly out of 50 (90%),</p>

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<p> <math>90 \times 0.4 = 36</math> points              Final score (100%) =              1) <math>RD (60\%) + IR (40\%) = 48,4 + 36 = 84,4</math> points              2) <math>RKsr \times 0.2 + TKsr \times 0.4 + IR \times 0.4 = 84.0 \times 0.2 + 79.0 \times 0.4 + 90 \times 0.4 = 16,8 + 31,6 + 36 = 84,4</math>              RKsr-average assessment of border controls              TKsr- average assessment of current control              IR - assessment of final control              RC 1-border control 1              RC 2 – border control 2              RD-              TKSr admission rating* - average current score with SIW and starf points              Klek-pass rate of the 1st lecture              of the Csro – pass rate of the 1st SIWT           </p>
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#### 14. Approval and revision

Date of approval by departments	Protocol № 1 01.09.2023	Morphophysiology head of department acting prof. <u>Tanabaev B.D.</u>	
	Protocol № 2 04.09.2023	Biology and biochemistry department prof. <u>Esirkepov M.M.</u>	
	Protocol № 1 05.09.2023	Phthisiopulmonology and radiology <u>Kasaeva L.T.</u>	
	Protocol № 2 05.09.2023	“Introduction to the clinic” department c.m.n.s. assistant professor <u>Zhumadilova A.R.</u>	
Date of approval by EPC	Protocol № 2 05.09.2023	Chairperson of EPC	