

## Syllabus

### Work study program of the discipline "Respiratory system in normal"

Name and code of the educational program: 6B10115 "Medicine"

1.	General information about the discipline		
1.1	Код дисциплины:RSN 2301	1.6	Academic year: 2025-2026
1.2	The name of the discipline: Respiratory system in normal	1.7	Course:2
1.3	Prerequisites: Introduction to the profession, Structural organization of human physiological processes	1.8	Term:3
1.4	Postrequisites: general pathology, cardiorespiratory system in pathology	1.9	Number of credits (ECTS): 4/120
	Cycle: BD	1.10	Component: UC
2.	Description of the discipline		
Integrated discipline: building fundamental knowledge of the anatomical, physiological and histological features of the respiratory organs, applying this knowledge to biomedical and clinical sciences, providing patient-centered care, respecting the principles of ethics and deontology for effective professional practice in health care.			
3.	Форма суммативной оценки		
3.1	● Testing	3.5	Course work
3.2	Written	3.6	Essay
3.3	Verbal	3.7	Project
3.4	Assessment of practical skills	3.8	Other (specify)
4.	Objectives of the discipline		
To form students' deep and comprehensive knowledge and understanding of the anatomy, histology, and physiology of the respiratory system in a healthy body. This allows them to fully interact with patients in the future, as well as successfully integrate the acquired knowledge into clinical practice and visual diagnostics.			
5.	Final learning outcomes (LO disciplines)		
LO1	Demonstrates knowledge of the subject and tasks of anatomy, histology and physiology, their importance for medicine.		
LO 2	He knows the basic physiological processes in the lungs, understands the regulation of breathing. He is able to explain the mechanisms of gas exchange and transport of oxygen and carbon dioxide.		
LO3	Understands the basic physiological processes in the lungs, the regulation of respiratory activity. He is able to explain the mechanisms of gas exchange and transport of oxygen and carbon dioxide.		
LO4	He is able to apply the essence of research methods for various human structures and functions, widely used in practical medicine.		
LO5	He is able to analyze and communicate information obtained in the course of practical skills, determines its significance for characterizing the state of the body.		
5.1	LO discipline	Learning outcomes of the EP, which are LO disciplines	
	LO 1 LO 2	LO1 – Applies fundamental knowledge of biomedical, clinical, epidemiological, and social-behavioral sciences to practice.	

	LO 3 LO 4	LO2– Provides patient-centered care in biomedical, clinical, epidemiological sciences aimed at diagnosis, treatment and prevention of the most common diseases.
	LO 5	
		LO4 - Communicates effectively with patients, their families and health care providers in an ethical, deontological and inclusive manner, resulting in effective information sharing and collaboration.

## 6. Detailed information about the discipline

6.1 The venue of the Department of Morphophysiology (Anatomy) is Shymkent, Al-Farabi Square 1, main academic building, ground floor; e-mail [anatomia.2012@mail.ru](mailto:anatomia.2012@mail.ru). Email address: [www.ukma.kz](http://www.ukma.kz). (Physiology)– Al-Farabi Square, academic building No. 2, 4th-5th floor  
Location of the Department of Topographic anatomy and histology: Shymkent, Al-Farabi Square 1, academic building 1B, ground floor;

6.2	Number of hours	Lectures	Practical.less	Lab. less	SIWT/MK	SIW
		8	32		12/12	56

6.3 The plan of studying the discipline

		Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	credit	water h
		1	2	3	4	5	6	7	8	9	10		
Anatomy	Lect	1			1			1	1			2,0	4
	Pract	3		3		3		3	2	2			16
	SIWT		1	1				1		1	2M K-2		6
	SIW												34
Physiology	Lect		1			1						1,0	2
	Pract		2		2		2		2				8
	SIWT	1					1		1				3
	SIW												17
Histology	Lect			1			1					1,0	2
	Pract		2		2				2		2		8
	SIWT				1	2M K-1							3
	SIW												17

## 7. Information about teachers

№	Full name	Degrees and positions	Email address
1.	Танабаев Баймахан Дильбарханович	зав.кафедрой, к.м.н, и.о.профессора	<a href="mailto:b.tanabayev@mail.ru">b.tanabayev@mail.ru</a>
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9.	Джубанишбаева Гаухар Ниязкуловна	магистр, ст преподаватель	<a href="mailto:gaukharai_kairat@mail.ru">gaukharai_kairat@mail.ru</a>
10.	Сатыбалдиева Назгул Муталхановна	магистр, ст преподаватель	<a href="mailto:n_a_z_i_92@mail.ru">n_a_z_i_92@mail.ru</a>
11.	Избасарова Мадина Сейсеналивна	магистр, ст преподаватель	<a href="mailto:madiko91.91@mail.ru">madiko91.91@mail.ru</a>
12.	Сабит Акайлым Ерлановна	магистр, ст преподаватель	<a href="mailto:sae.260996@mail.ru">sae.260996@mail.ru</a>

## 8. Thematic plan



Week / day	Topic name	Summary	The LO of discipline	Number of hours	Teaching methods/ technologies	Assessment forms/ methods
1	<b>Anatomy.</b> Lecture 1 Morphofunctional anatomy of the nasal cavity and paranasal sinuses.	The structure of the external nose, nasal septum, nasal passages and paranasal sinuses. The nasal cavity and its walls.	LO1	1	Introductory	Feedback (security questions)
	<b>Anatomy.</b> Practical lesson 1. External nose. The nasal cavity and its walls. Paranasal sinuses	Anatomical structure of the external nose, nasal septum, nasal passages and paranasal sinuses. The nasal cavity and its walls.	LO1, LO2, LO3	3	work in small groups with anatomical preparations, torso, dummies, 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>Physiology of SIWT/SIW 1</b> Features of breathing in different conditions. The task of the SIW is to study changes in the functions of the respiratory system in various physiological and pathological conditions, as well as in environmental conditions.	Breathing during muscular work. Breathing at low and high atmospheric pressure. Artificial respiration.	LO4 LO5	1/7	Preparation and protection of presentations.	A checklist for evaluating SIW.
2	<b>Physiology.</b> Lecture 1 Physiology of the respiratory system.	Physiology of the respiratory system. External breathing. Transportation of gases by blood. Methods of respiratory research.	LO1	1	overview	Feedback (security questions)
	<b>Physiology.</b> Practical lesson 1 Physiology of the respiratory system. External breathing.	External breathing. Elastic properties of the lungs. The minute volume of breathing.	LO1, LO2, LO3	2	discussing the main issues of the topic, completing test tasks, solving situational problems.	Oral interview, assessment of the performance of test tasks, assessment of the solution of situational tasks
	<b>Histology.</b> Practical lesson 1 Topic: Nasal cavity, nasopharynx, larynx	Shells of the wall of the airways. Extrapulmonary airways. The structure of the walls of the airways: nasal cavity, nasopharynx, larynx. Histofunctional features of the mucous membrane.	LO1, LO2, LO3	1	Small group work, checklist of histopreparations, micrographs	Practical lesson evaluation checklist.
	<b>Anatomy. SIWT/SIW 1</b> Anatomical and topographic features of the nasal cavity and paranasal sinuses. Their importance in clinical practice. SIW Assignments:	Anatomical and topographic features of the nasal cavity and paranasal sinuses. Their importance in clinical practice.	LO4 LO5	1/6	- Preparation and protection of the presentation	Oral interview. Assessment sheets for all forms of completed assignments.

	<p>1. List the anatomical structures forming the walls of the nasal cavity and paranasal sinuses.1</p> <p>2. Explain how the anatomical and topographic features of the nasal cavity and paranasal sinuses affect the spread of the inflammatory process in sinusitis.</p> <p>3. Analyze the clinical situation with purulent sinusitis and determine which anatomical structures may be involved in the pathological process.</p>					
3	<p><b>Histology.</b> Lecture No. 1 Topic: Organization of airways</p>	<p>Morphofunctional characteristics of the respiratory system. Classification, sources, and course of development. Extrapulmonary airways. The structure of the walls of the airways: nasal cavity, larynx, trachea and main bronchi. Histofunctional features of the mucous membrane.</p>	LO1	1	overview	Feedback (security questions)
	<p><b>Anatomy.</b> Practical lesson 2. The pharynx and its involvement in breathing. Larynx: topography, ligaments and muscles, functions.</p>	<p>The structure of the pharynx and larynx as an airway, the features of their walls. Ligaments and muscles of the larynx.</p>	LO1, LO2, LO3	3	work in small groups with anatomical preparations, torso, dummies, 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
	<p><b>Anatomy.</b> SIWT/SIW 2. Segmental structure of the lungs. Principles of bronchopulmonary surgery. SIW Assignments: 1. Name the anatomical segments of the right and left lungs according to their lobes. 2. Explain the importance of the segmental structure of the lungs for performing organ-preserving operations in thoracic surgery. 3. Analyze a clinical case with</p>	<p>Segmental structure of the lungs. Principles of bronchopulmonary surgery.</p>	LO4 LO5	1/6	- Preparation and protection of the presentation	Oral interview. Assessment sheets for all forms of completed assignments.



	a localized lung abscess and determine which segment should be removed during segmentectomy.					
4	<b>Anatomy.</b> Lecture 2 Morphofunctional characteristics of the pharynx and larynx.	Pharynx, larynx: topography, structure, functions.		1	Overview	Feedback (security questions)
	<b>Physiology.</b> Practical lesson 2 Gas exchange in lungs and tissues. Total lung capacity.	Gas exchange in lungs and tissues. Vital capacity of the lungs. Spirometry.	LO1, LO2, LO3	2	discussing the main issues of the topic, completing test tasks, solving situational problems.	Oral interview, assessment of the performance of test tasks, assessment of the solution of situational tasks
	<b>Histology.</b> Practical lesson 2 Theme: Trachea and main bronchi.	Extrapulmonary airways. The structure of the wall of the airways: trachea and main bronchi. Histofunctional features of the mucous membrane.	LO1, LO2, LO3	2	Small group work, checklist of histopreparations, micrographs	Practical lesson evaluation checklist.
	<b>Histology.</b> SIWT 1. Bronchi and bronchioles. 2. Surfactant-alveolar complex. Task SIW 1. Explain how the transition from the bronchus to the alveolar region occurs.	Lungs. Intrapulmonary airways: bronchi and bronchioles. The dependence of the structure of the bronchial wall and bronchioles on their caliber. Structural and chemical organization and function of the surfactant-alveolar complex. The structure of the interalveolar partitions	LO4 LO5	1	Working in small groups, defending a presentation, compiling a glossary.	Checklist for SIW assessment
5	<b>Physiology.</b> Lecture 2 Regulation of breathing.	The respiratory center. Humoral effects on the respiratory center. Reflex actions on the respiratory center.	LO1	1	overview	Feedback (security questions)
	<b>Anatomy.</b> Practical lesson 3. Trachea and bronchial tree: anatomical and topographic features.	The structure of the trachea, primary, secondary and tertiary bronchi.	LO1, LO2, LO3	3	work in small groups with anatomical preparations, torso, dummies, 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> SIWT/SIW 2. <b>Border control 1.</b>	Consolidation of the completed material on the topics of lectures, practical exercises, exercises and deadlines.	LO4 LO5	2	Written response to tickets (situational tasks)	MK assessment Checklist
6	<b>Histology.</b> Lecture No. 2 Topic: Lung Histology	Morphofunctional characteristics of the lung. Bronchi, bronchioles, alveoli. Pneumocysts, surfactant. Respiratory department of the lung. The air-blood barrier.	LO1	1	overview	Feedback (security questions)
	<b>Physiology.</b> Practical lesson 3	Transportation of gases by	LO1,	2	discussing the main	Oral interview,

	Transportation of gases by blood.	blood. Oxygen transport. Dissociation of oxyhemoglobin. Transport of carbon dioxide.	LO2, LO3		issues of the topic, completing test tasks, solving situational problems.	assessment of the performance of test tasks, assessment of the solution of situational tasks
	<b>The physiology of SIWT/SIW 2</b> Influence on the respiratory center of various departments of the central nervous system. SIW tasks: Describe the effect of the central nervous system departments on the respiratory center	The influence of the hypothalamus on the activity of the respiratory center. Regulation of respiration by the cerebral hemispheres.	LO4 LO5	1/7	Preparation and protection of presentations.	A checklist for evaluating SIW
7	<b>Anatomy.</b> Lecture 3 Morphofunctional characteristics of the lungs	The structure, topography, and functions of the lungs. The structure of the broncho-alveolar tree.	LO1	1	Overview	Feedback (security questions)
	<b>Anatomy.</b> Practical lesson 4. Lungs. The structure, lobes, segments, and gates of the lung.	The external and internal structure of the lungs, segmental structure. Topography of the lung gates.	LO1, LO2, LO3	3	work in small groups with anatomical preparations, torso, dummies, 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>Anatomy.</b> SIWT/SIW 3. Clinical anatomical guidelines for puncture of the pleural cavity. SIW Assignments: 1. List the anatomical landmarks of the chest used for puncture of the pleural cavity. 2. Based on the clinical situation, determine the optimal location for performing a pleural puncture and justify your choice based on the anatomy.	Clinical anatomical guidelines for puncture of the pleural cavity.	LO4 LO5	1/6	- Preparation and protection of the presentation	Oral interview. Assessment sheets for all forms of completed assignments.
8	<b>Anatomy.</b> Lecture 4. Morphofunctional characteristics of the pleura.	Pleura, pleural sinuses. Topography of the pleura and lungs	LO1	1	Overview	Feedback (security questions)
	<b>Anatomy.</b> Practical lesson 5. Pleura, pleural sinuses. Topography of the pleura and lungs	The pleura. Sinuses of the pleura. The boundaries of the lungs and pleural sacs.	LO1, LO2, LO3	2	work in small groups with anatomical preparations, torso, dummies, posters, on the interactive Pirogov panel 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 #3 Theme: Respiratory department. Acinus of the lung.	Acinus as a morphofunctional unit of the lung. Structural components of the acinus. The structure of the alveolar wall. Types of pneumocytes, their histofunctional characteristics.	LO1, LO2, LO3	2	Small group work, checklist of histopreparations, micrographs	Practical lesson evaluation checklist.
	<b>Physiology of SIWT/SIW 3</b> The role of chemoreceptors and mechanoreceptors of respiratory regulation. SIW Assignments: Schematically depict the regulation of respiration with the participation of chemo- and mechanoreceptors (arrow diagram).	The role of respiratory regulation mechanoreceptors. The reflexes of Goering and Breuer. The role of chemoreceptors in respiratory regulation. Arterial and central chemoreceptors.	LO4 LO5	1/7	Preparation and protection of presentations.	A checklist for evaluating SIW.
9	<b>Anatomy.</b> Practical lesson 6. Mediastinum: classification. Respiratory muscles: anatomy of the diaphragm and auxiliary respiratory muscles	The mediastinum. Classification of the mediastinum. Topography of mediastinal organs. Anatomical structure of the diaphragm, external and internal intercostal muscles, auxiliary respiratory muscles (sternocleidomastoid, stair, abdominal muscles, etc.)	LO1, LO2, LO3	2	work in small groups with anatomical preparations, torso, dummies, 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>Physiology.</b> Practical lesson 4 Regulation of breathing.	Regulation of breathing. The respiratory center. The role of chemo and mechanoreceptors in respiratory regulation.	LO1, LO2, LO3	2	discussing the main issues of the topic, completing test tasks, solving situational problems.	Oral interview, assessment of the performance of test tasks, assessment of the solution of situational tasks
	Anatomy. SIWT/SIW 4. Topography of the trachea and bronchi: clinical significance in aspiration and bronchoscopy. SIW Assignments: 1. Name the main anatomical and topographic features of the trachea and the main bronchi. 2. Analyze the location of the trachea and bronchi and determine the safe path of the bronchoscope during diagnostic bronchoscopy.	Tracheal and bronchial topography: clinical significance in aspiration and bronchoscopy.	LO4 LO5	1/6	- Preparation and protection of the presentation	Oral interview. Assessment sheets for all forms of completed assignments.
10	<b>Histology.</b> Practical lesson 4 Theme: Aerogematic barrier. The pleura.	The aerogematic barrier and its significance in gas exchange. Lung macrophages. Blood supply and innervation of the lung. Regenerative potencies of the respiratory system. The pleura.	LO1, LO2, LO3	1	Small group work, checklist of histopreparations, micrographs	Practical lesson evaluation checklist.
	<b>Anatomy.</b> SIWT/SIW 5	Consolidation of the completed material on the topics of	LO4 LO5	2	Written response to tickets (situational	MK assessment Checklist

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Border control 2. SIW Assignments: 1. Solve the clinical problem by analyzing the anatomical and histological structures, physiological processes of the organs of the respiratory system involved in the development of the presented clinical situation.	lectures, practical exercises, exercises and deadlines.			tasks)	
Interim assessment hours		12 hours			

9.	Методы обучения и оценивания					
9.1	Lectures	Introductory lecture, review, feedback (security questions)				
9.2	Practical exercises	Work in small groups with anatomical preparations, torso, dummies, posters, on the interactive panel "Pirogov" and / or solving test and situational tasks. Discussing the main issues of the topic, completing test tasks, solving situational tasks. Small group work, checklist of histopreparations, micrographs.				
9.3	SIWT/SIW	Preparation and protection of the presentation; Execution of the scheme of the veins and areas of venous outflow. Working in small groups, compiling a glossary.				
9.4	Midterm control	Written response to tickets (situational tasks)				
10.	Evaluation criteria					
10.1	Criteria for evaluating the learning outcomes of the discipline					
	№ LO	Name of learning outcomes	Unsatisfactory	Satisfactory	Well	Great
	LO1	Demonstrates knowledge of the subject and tasks of anatomy, histology and physiology, their importance for medicine.	He cannot explain the tasks of the discipline and their significance for medicine.	Knows the tasks of the disciplines, but explains them incompletely and with errors	Confidently names tasks, shows a general understanding of the importance	Clearly and argumentatively explains the subject, tasks and their importance for medicine.
	LO2	Knows and understands the structural features of the heart, blood vessels and other elements of the cardiovascular system. It is able to describe the topography of	It does not recognize anatomical and histological structures.	Recognizes with difficulty, makes inaccuracies in the description	Recognizes structures, describes them with minor errors	Confidently identifies structures and accurately describes their features



		organs, the microscopic structure of tissues.				
	LO3	Understands the basic physiological processes in the heart, regulation of cardiac activity. It is able to explain the mechanism of the large and small circulatory system.	It cannot explain the physiological processes and regulation	Explains it with errors or superficially	Provides a detailed but incomplete explanation of the processes	Confidently and fully explains the physiology and mechanisms of blood circulation
	LO4	He is able to apply the essence of research methods for various human structures and functions, widely used in practical medicine.	Does not know the methods, cannot explain their principle	He knows the methods, but he can't put them into practice.	Confidently uses methods, but needs to be adjusted	Independently applies methods, explains their meaning
	LO5	He is able to analyze and communicate information obtained in the course of practical skills, determines its significance for characterizing the state of the body.	Does not analyze or understand the meaning of the information received	Partially analyzes, but makes mistakes in interpretation	Analyzes information, explains its relation to the state of the body	Deeply analyzes, reasonably interprets clinical significance

## 10.2 Assessment methods and criteria

### Checklist for practical training

#### Oral response

Form of control	Evaluation	Evaluation criteria
Oral response	Great Corresponds to the estimates: A (4,0; 95-100%); A- (3,67; 90-94%)	The student did not make any mistakes during the answer, was guided by the theories, concepts and directions of the discipline under study, gave them a critical assessment, and also used the scientific achievements of other disciplines.
	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%)	The student did not make any gross mistakes during the answer, but made inaccuracies and unprincipled mistakes, corrected by himself, managed to systematize the program material with the help of a teacher.
	Satisfactory Corresponds to the estimates:	The student made fundamental mistakes during the answer, limited himself only to the educational literature indicated by the teacher, and had great

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C (2,0; 65-69%)  
C- (1,67; 60-64%)  
D+ (1,33; 55-59%)  
D- (1,0; 50-54%)

difficulty in systematizing the material.

Unsatisfactory  
FX (0,5; 25-49%)  
F (0; 0-24%)

The student made gross mistakes during the answer, did not study the main literature on the topic of the lesson, and failed to use scientific terminology in histology and physiology.

Checklist for evaluating work in small groups

Evaluation criteria for the description of anatomical preparations

Full name of the student

№ steps	Criteria for evaluating steps	Great 90-100 He gave a clear and comprehensive answer, correctly named the organs in Latin and Greek.	Well 70-89 I gave a fairly complete answer, but I was confused in terminology; I made minor inaccuracies	Udovl 50-69 I partially completed the task: I was confused in the answer, I did not provide the full names of anatomical structures.	Failure 0-49 I couldn't complete the task: I couldn't name the anatomical structures
1.	The student recognizes the organ, gives its name in Latin, and, if necessary, in Greek.	18-20	14-17,8	10-13,8	0-9,8
2.	The student describes the holotomy of the organ using professional terminology	18-20	14-17,8	10-13,8	0-9,8
3.	The student describes the skeletotomy of the organ using professional terminology	18-20	14-17,8	10-13,8	0-9,8
4.	The student describes the organ's 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 \_\_\_\_\_

Checklist for evaluating work in small groups

Working in small groups	<b>Great</b> Corresponds to the estimates: A (4,0; 95-100%); A- (3,67; 90-94%)	The students, allocated to a small group, actively participated in the fully correctly answered questions during the discussion.
	<b>Well</b> <b>Corresponds to the estimates:</b> B+ (3,33; 85-89%) B (3,0; 80-84%) B- (2,67; 75-79%) C+ (2,33; 70-74%)	The students assigned to the subgroup actively participated in the di problem by making mistakes that were corrected by the students of
	<b>Satisfactory</b> <b>Corresponds to the estimates:</b> C (2,0; 65-69%)	The students assigned to the subgroup actively participated in the di problem by making mistakes that were corrected by the students of discussion of the main issues of the topic, during the discussion they



C- (1,67; 60-64%) D+ (1,33; 55-59%) D- (1,0; 50-54%)	the subgroup themselves	
<b>Unsatisfactory</b> FX (0.5; 25-49%) F (0; 0-24%)	They could not find the correct answers to the main questions of the topic, did not use scientific terminology when answering.	

### Solving situational problems

Form of control	Evaluation	Evaluation criteria
Solving situational problems	Great Corresponds to the estimates: 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.
	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%)	He actively participated in the work, showed knowledge of the material, made unprincipled inaccuracies or errors corrected by the student himself.
	Satisfactory Corresponds to the estimates: C (2,0; 65-69%) C- (1,67; 60-64%) D+ (1,33; 55-59%) D- (1,0; 50-54%)	When working in a group, he was passive, made inaccuracies and fundamental mistakes, and had great difficulty organizing the material.
	Unsatisfactory FX (0.5; 25-49%) F (0; 0-24%)	He did not participate in the group's work, answering the teacher's questions, made fundamental mistakes and inaccuracies, and did not use scientific terminology in his answers.

### Criteria for assessing practical skills acquisition

#### Full name of the student

№ п/п	Criteria for evaluating steps	Level			
		Great 90-100	Well 70-89	Satisfactor y 50-69	Failed 0-49
1.	The 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

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3	The student must 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 must 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 tell about the age characteristics of the organ.	18-20	14-17,8	10-13,8	0-9,8

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

### Presentation protection

Form of control	Evaluation	Evaluation criteria
Presentation protection	Great Corresponds to the points: A (4,0; 95-100%) A- (3,67; 90-94%)	The student prepared a presentation on the topic at the appointed time, independently, accurately, with at least 20 concise and informative slides, using at least 5 literary sources and having a detailed plan, provided diagrams, tables and drawings corresponding to the topic, demonstrated deep knowledge of the topic during the defense and accurately answered all the questions asked.
	Well Corresponds to the points: B+ (3,33; 85-89%) B (3,0; 80-84%) B- (2,67; 75-79%) C+ (2,33; 70-74%)	The student prepared a presentation on the topic at the appointed time, independently, accurately, with at least 20 concise and informative slides, using at least 5 literary sources and having a detailed plan, provided diagrams, tables and drawings corresponding to the topic, demonstrated good knowledge of the topic during the defense, made non-fundamental mistakes when answering questions.
	Satisfactory Corresponds to points: C (2,0; 65-69%) C- (1,67; 60-64%) D+ (1,0; 50-54%)	The student prepared a presentation on the topic at the appointed time, independently, but carelessly, with a volume of at least 20 non-informative slides, using less than 5 literary sources and the presence of an undeveloped plan, cited an insufficient number of diagrams, tables and drawings corresponding to the topic, answered questions uncertainly during the defense, made fundamental mistakes
	Unsatisfactory Corresponds to FX score (0,5; 25-49%) F (0; 0-24 %)	The student did not prepare a presentation on the topic at the appointed time, or prepared it at the appointed time, but not thoroughly, carelessly, with less than 20 non-informative slides, without specifying literary sources, in the absence of a plan, made gross mistakes when answering questions or could not answer questions and did not defend the presentation on the topic.

Checklist for evaluation of SIW in histology



№	Evaluation criteria	Level			
		Great	Well	Satisfied	Failure
1	Assessment of the protection of histological micro-preparations	40	28	20	0
2	Evaluation of the protection of electronic micrographs	40	28	20	0
3	Assessment of glossary compilation	20	14	10	0
	Total:	100	70	50	0

Preparation and protection of histological micro-preparations and micrographs

Form of control	Evaluation	Evaluation criteria
Preparation of the presentation of histological micro-preparations and micrographs and its protection.	Great Corresponds to the estimates: A (4.0; 95-100%); A- (3.67; 90-94%)	The student prepared a presentation of 3 micro-preparations and 3 micrographs on the topic at the appointed time, independently, accurately, with at least 6 meaningful tables, using at least 5 literary sources and a detailed plan, provided diagrams, tables and drawings relevant to the topic, demonstrated deep knowledge of the topic during the defense and accurately answered all questions asked.
	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%);	The student prepared a presentation of 3 micro-preparations and 3 micrographs on the topic at the appointed time, independently, accurately, with at least 6 meaningful tables, using at least 5 literary sources and a detailed plan, provided diagrams, tables and drawings relevant to the topic, demonstrated good knowledge of the topic during the defense, when answering questions I did not make fundamental mistakes.
	Satisfactory Corresponds to the 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 micrographs on the topic at the appointed time, independently, but inaccurately, with at least 6 meaningful tables, using less than 5 literary sources and an incomplete outline, provided an insufficient number of diagrams, tables and drawings corresponding to the topic, answered questions uncertainly during the defense, made fundamental mistakes.
	Unsatisfactory Corresponds to the estimate of FX (0.5; 25-49%); F (0; 0-49%)	The student did not prepare a presentation of 3 micro-preparations and 3 micrographs on the topic at the appointed time, or prepared it at the appointed time, but not thoroughly, inaccurately, with less than 6 meaningful tables, without specifying literary sources, in the absence of a plan, made gross mistakes when answering questions or could not answer questions and did not defend the work.

Form of control	Evaluation	Evaluation criteria
Written ticket survey (clinical tasks) and testing	Great Corresponds to the points: A (4,0; 95-100%) A- (3,67; 90-94%)	It is put in the event that the student did not make any mistakes or inaccuracies during the answer. He is guided by theories, concepts and directions in the studied discipline and gives them a critical assessment. 90-100% completion of test tasks.
	Well Corresponds to the points: 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 gross mistakes during the answer, made unprincipled inaccuracies or fundamental errors corrected by the student himself, managed to systematize the program material with the help of the teacher. Performs test tasks by 70-89%.
	Satisfactory Corresponds to 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, limited himself only to the educational literature indicated by the teacher, experienced great difficulties in systematizing the material. Performs test tasks by 50-69%.
	Unsatisfactory Corresponds to FX score (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 out the main literature on the topic of the lesson; does not know how to use the scientific terminology of the discipline, answers with gross stylistic and logical errors. Performs test tasks by 0-49%.

#### Multidisciplinary knowledge assessment system

Rating according to the letter system	The digital equivalent of points	Percentage content	Assessment according to the traditional system
A	4,0	95-100	Great
A -	3,67	90-94	
B +	3,33	85-89	Well
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	0,5	25-49	Unsatisfactory
F	0	0-24	

#### 11. Educational resources

Electronic resources, including, but not limited to: databases,	<ul style="list-style-type: none"> <li>Электронная библиотека ЮКМА - <a href="https://e-lib.skma.edu.kz/genres">https://e-lib.skma.edu.kz/genres</a></li> <li>Республиканская межвузовская электронная библиотека (РМЭБ) - <a href="http://rmebrk.kz/">http://rmebrk.kz/</a></li> </ul>
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animation simulators,  
professional blogs,  
websites, other  
electronic reference  
materials (for  
example: video, audio,  
digests)

- Цифровая библиотека «Aknurpress» - <https://www.aknurpress.kz/>
- Электронная библиотека «Эпиграф» - <http://www.elib.kz/>
- Эпиграф - портал мультимедийных учебников <https://mbook.kz/ru/index/>
- ЭБС IPR SMART <https://www.iprbookshop.ru/auth>
- информационно-правовая система «Зан» - <https://zan.kz/ru>
- Medline Ultimate EBSCO - <https://research.ebsco.com/>
- eBook Medical Collection EBSCO - <https://research.ebsco.com/>
- Scopus - <https://www.scopus.com/>

Electronic textbooks

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Laboratory physical resources	<p>Скелет, набор из костей, муляжи, торс, электронные планшеты, интерактивный анатомический стол «Пирогова», анатомическая панель «Пирогова»</p> <p>Микроскопы, набор микропрепаратов, атлас микрофотографий.</p> <p>Муляжи, таблица Сивцева, периметр Форстера, электрокардиограф, тонометр, фонендоскоп, гемометр Сали.</p> <p>Биохимический анализатор, спектрофотометры, набор реактивов, пробирки</p> <p>Тренажеры Центра практических навыков</p>
Literature	<p>Борзяк Э. И. Анатомия человека. Фотографический атлас. В 3 т. Т. 3. Внутренние органы нервная система: учебное пособие - М.: ГЭОТАР - Медиа, 2016. - 488 с</p> <p>Борзяк Э. И. Анатомия человека. Фотографический атлас. В 3-х томах. Том 2. Сердечно-сосудистая система. Лимфатическая система. - М.: ГЭОТАР - Медиа, 2015. – 368 с.</p> <p>Борзяк Э. И. Анатомия человека. Фотографический атлас. В 3-х томах. Том 1. Опорно - двигательный аппарат. - М. : ГЭОТАР – Медиа, 2014. - 480 с</p> <p>Гайворонский И. В. Анатомия человека. В 2 т. Т. 1. Система органов опоры и движения. Спланхнология: учебник - М.: ГЭОТАР - Медиа, 2014</p> <p>Анатомия человека. В 3 т. Т. 1. Опорно-двигательный аппарат: иллюстрированный учебник / под ред. Л. Л. Колесникова; М-во образования и науки РФ. - М.: ГЭОТАР - Медиа, 2014. - 320 с</p> <p>Анатомия человека. Т.1 : учебник: в 2-х томах / под ред. М. Р. Сапина [и др.]. - М. : ГЭОТАР - Медиа, 2022. - 528 с.</p> <p>Анатомия человека. Т.2 : учебник: в 2-х томах / под ред. М. Р. Сапина [и др.]. - М. : ГЭОТАР - Медиа, 2021. - 464 с.</p> <p>Привес М. Г. Анатомия человека : учебник / М. Г. Привес, Н. К. Лысенков, В. И. Бушкович. - М. : ГЭОТАР - Медиа, 2022. - 896 с</p> <p>Неттер Ф. Атлас анатомии человека: атлас - М.: ГЭОТАР – Медиа, 2015. - 624 с</p> <p>Анатомия человека. В 3 т. Т 2. Спланхнология и сердечно-сосудистая система: иллюстрированный учебник / М-во образования и науки РФ; под ред. Л. Л. Колесникова. - М.: ГЭОТАР - Медиа, 2014. - 320</p> <p>Анатомия по Пирогову. Атлас анатомии человека. В 3 т. Т. 2. Голова. Шея: М.: ГЭОТАР - Медиа, 2013</p> <p>Ахметова , Н. Ш.Анатомия, физиология, патология органов слуха, речи, зрения : учебное пособие. - 3-е изд. - Караганда : АҚНҰР, 2019. - 192 с.</p> <p>Нормальная физиология : учебник / Под ред. академика РАМН Б.И. Ткаченко. М. : ГЭОТАР - Медиа, 2018. - 688 с. +опт. диск (CD-ROM)</p> <p>Эсенбекова, З. Э. Курс лекций по нормальной физиологии : учебное пособие . - 3-е изд. доп. и перераб. - Бишкек: [б. и.], 2019. - 365 с.</p> <p>Нормальная физиология: учебник / Под ред. Л. З. Теля, Н. А. Агаджаняна ; М-во образ. и науки РФ. - М. : "Литтерра", 2015.</p> <p>Физиология человека: учебник / под ред. Е.Б.Бабского. - Алматы : Эверо, 2014. - 743 с</p> <p>Ситуационные задачи по курсу нормальной физиологии: учебно-методическое пособие /В. К. Касымбеков [и др.]. - Алматы :Эверо, 2016. - 144 с.</p> <p>Гистология, эмбриология, цитология: оқулық / ред. басқ. Ю. И. Афанасьев; Н. А. Юрина; қаз. тіліне ауд. Және жауапты ред. Р. Ж. Есимова; К. Т. Нурсейтова. - 6-бас.,өнд. жәнәтолықт. - М. : ГЭОТАР - Медиа, 2014. - 896 бет. Ил</p> <p>Гистология. Комплексные тесты : ответы и пояснения : учебное пособие / под ред. проф. С. Л. Кузнецова, проф. Ю. А. Чельшева. - М. : ГЭОТАР - Медиа, 2014. - 288 с. : ил</p> <p>Тұңғышбаева, З. Б. Цитология және гистология негіздері : оқулық / З. Б. Тұңғышбаева. - Алматы : АҚНҰР, 2019. - 248 бет. с.</p> <p>Данилов, Р. К. Гистология, эмбриология, цитология [Текст] : учебник / Р. К. Данилов, Т. Г. Боровая. - М. : ГЭОТАР - Медиа, 2018. - 520 с. : ил</p> <p>Юй Р. И. Основы гистологии полости рта и зубов : учебное пособие для стоматологов / Р. И. Юй, . - 2-е изд., доп. и перераб. - Алматы : TechSmith, 2023. - 232 с</p>

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## 12. Discipline Policy

### Requirements for students:

1. don't be late for classes;
2. do not skip classes without good reason;
3. have anatomical gloves, tweezers and a scalpel;
4. Be active during practice sessions;
5. be able to work in a team;
6. timely, on schedule, perform and deliver SIW;
7. do not engage in extraneous activities during classes;
8. Be tolerant, open and friendly to fellow students and teachers;
9. observe ethical standards of behavior when working with anatomical preparations and organs of the human body;
10. take care of the property of the department;
11. timely work off missed classes for good reasons;
12. Observe safety precautions in the classroom.
13. During lectures / practical classes/It is forbidden for students to SIWT:
14. Use mobile devices/ gadgets;
15. leave the study room/classroom (leave the workplace at the clinical/industrial base) without the permission of the teacher

### Dress code requirements

The student is obliged to:

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 unacceptable).

### 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 did not show up for the boundary control without a valid reason and received an unsatisfactory grade for one of the types of controls (MC1, MC2, TCsr) is not allowed to take the exam in the discipline; A student who did not show up for the MC for a good reason, immediately after he started 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 point and is deducted from the estimates of the boundary control.
- For 1 skip of the SIW, for no good reason, the penalty point is 2.0 points and is subtracted from the SIW estimates
- Incentive points are taken into account according to the department's policy. Reward points are added to the assessment of the boundary control. For active participation in the work of the SNK and seminars in each discipline, the student is awarded an incentive score from 5 to 10. Если обучающиеся не набирают 50% текущего рейтинга (i.e. 30 points), then they are not allowed to take the final control (exam).

Requirements for students, attendance, behavior, grading policy, punitive measures, incentive measures, etc.

### The student must:



- Observe medical ethics and deontology;
  - No smoking at the academy;
  - Keep the department clean;
  - do not spoil furniture in classrooms;
  - take care of textbooks;
  - observe the appearance of a medical student;
  - Follow safety regulations;
  - Wear masks during the flu epidemic;
  - do not skip classes without a good reason;
  - to work out classes missed for a good reason in a timely manner, but only if the dean's office has access and at a time determined 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 class: 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;
  - to perform and submit SIW in a timely manner according to the schedule (in electronic form); with verification of written works for plagiarism. Штрафные меры при невыполнении разделов работы:
  - if you skip lectures for no good reason, the assessment of boundary control decreases – 1 point for each missed lecture;
  - if you skip the SIW without a valid reason, the score for the SIW decreases – 2 points for each missed lesson;
  - in case of late delivery of the DEADLINE without a valid reason (later than the specified week), the DEADLINE is not accepted;
  - in case of a single violation of the discipline policy, a warning is given 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 has received an unsatisfactory grade for one of the types of control (boundary control 1, boundary control 2, average grade of the current control) is not allowed to take final control of the discipline.

### 13. Academic policy based on the moral and ethical values of the Academy

www.ukma.kz Regulations and Rules of YUMA JSC. Academic policy.

Paragraph 4 of the student's Code of Honor

Item 10. Organization of the educational process

Item 10. Organization of the educational process

**Final control** – students who have fully mastered the discipline program and scored an admission rating are allowed to take the exam.

The final score is calculated automatically based on the average score of the current control, the average score of the boundary controls and the final control score:

Admission rating (60%) = average score of boundary controls (20%) + average score of the current control (40%)

The average score of boundary controls =  $MC1 + MC2 / 2$

The average score of the current control = the arithmetic mean sum of the current scores, taking into account the average score for SIW and penalty points.

Final score (100%) =  $MCAver \times 0.2 + CCAver \times 0.4 + FC \times 0.4$

Final score (100%) = Admission rating (60%) + Final control (40%)

**An example of calculating a student's final grade:**

Penalty points:

Department of "Morphophysiology"  
Department of "Topographic anatomy and histology"

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Work study program of the discipline "Respiratory system in normal"

For example, a student missed 2 lectures =  $1.0 \times 2 = 2.0$  points

For skipping 1 SIWT = 2.0 points

MK 1 – 80 points

MK 2 – 90 points

MK aver =  $(80-2)+90 = 84$  points  
2

The arithmetic mean of the current control (practice. and the lab. classes) – 80 points

SIW 1 – 75 points

SIW 2 – 85 points

SIWN... – the number of SIW

Average score for SIW =  $\frac{75 + 85 + N_{...}}{2 + N_{...}} = 80$  points

The average current score, taking into account SRO and penalty points:

CCaver\* = CCaver + SIWaver - Kaver =  $80 + (80 - 2.0) = 158 = 79.0$   
2 2 2

Admission rating (60%) =  $MCsr \times 0.2 + CCsr \times 0.4 = 84 \times 0.2 + 79.0 \times 0.4 = 16.8 + 31.6 = 48.4$  points

Final control (40%), for example, the student answered 45 questions correctly out of 50 (90%),

$90 \times 0.4 = 36$  points

Final score (100%) =

1) RD (60%) + AR (40%) =  $48.4 + 36 = 84.4$  points

2) MCaver  $\times 0.2 + CCsr \times 0.4 + FC \times 0.4 = 84.0 \times 0.2 + 79.0 \times 0.4 + 90 \times 0.4 = 16.8 + 31.6 + 36 = 84.4$  points

MKaver – average assessment of midterm controls

MK – average assessment of current control

FR assessment of the final control

MK 1 - midterm control 1

MK 2 – midterm control 2

AD – admission rating

CCaver\* is the average current score, taking into account SIW and starf points

Klek – the coefficient of skipping the 1st lecture

Caver – the pass rate of the 1st SIWT

#### 14. Approval and revision

Date of approval with the library and information center	Protocol № 4 26.06.25	Full name of the head of the BIC	Signature
Date of approval at the department	Protocol №	Full name of the head	Signature
Date of approval at the department	Protocol № 11 14.06.25	Head of the department "Morphophysiology"	
Date of approval at the department	Protocol № 11 26.06.25	Head of the Department "Topographic anatomy and histology"	
Date of approval for AC EP	Protocol № 6 27.06.25	Full name of the Chairman of the AC EP "Medicine"	





Department of "Morphophysiology"  
Department of "Topographic anatomy and histology"

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Work study program of the discipline "Respiratory system in normal"

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<b>Date of revision at the department</b>	<b>Protocol №</b>	<b>Full name of the head</b>	
<b>Date of revision at AC EP</b>	<b>Protocol №</b>	<b>Full name of the Chairman of the AC EP "Medicine"</b>	