Syllabus

Working curriculum of the discipline "Normal blood and lymph"

Educational program: 6B10115 "Medicine"

1.	**General information about the discipline**		
1.1	**Discipline code:** BLN 2212	1.6	**Academic year:**2025-2026
1.2	**Name of the discipline:** "Normal blood and lymph".	1.7	**Course:**2
1.3	**Prerequisites:** molecular biology and medical genetics,	1.8	**Semester**:3
1.4	**Postrequisites:** General pathology, blood and lymph in pathology in children	1.9	**Number of credits (ECTS)**:3/90
	Cycle: BD	1.10	**Component**: UC
2.	**Content of the discipline**		
*F*undamental knowledge of the anatomical, physiological and histological features of blood and lymph., applying this knowledge to biomedical and clinical sciences, providing patient-centered care, adhering to the principles of ethics and deontology for effective professional practice in health care.			
3.	**Form of summative valuation**		
3.1	☑ Testing	3.5	Coursework
3.2	Written	3.6	Essay
3.3	Oral	3.7	Project
3.4	☑ OSPE/OSCE, or practical skills	3.8	Other (specify)
4.	**Objectives of the discipline**		
Formation of a set of knowledge and understanding of the morphophysiology of blood and lymph, about the main laws of the course of metabolic processes that determine the state of health and adaptation of a person at the cellular, tissue and organ levels of the whole body.			
5.	**Final Learning Outcomes (LO of the discipline)**		
LO1	Demonstrates knowledge of structures and general patterns of structure and functioning of cells, tissues, organs of blood and lymphatic systems, their mechanisms of regulation, considered from the standpoint of general morphophysiology and integrative behavioral activity of a person;		
LO2	Demonstrates knowledge of the main metabolic processes occurring in tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. Knows the basic physiological composition and functions of biological fluids normally in the human body.		
LO3	Demonstrates his knowledge and skills in conducting morphophysiological research, is able to analyze literary research and scientific articles in independent study of the discipline, is able to work in a group and apply knowledge and understanding in practice.		
5.1	**LO disciplines**	**Learning outcomes of the EP with which the disciplines are related**	
	LO 1	LO 1 –Applies fundamental knowledge of biomedical, clinical, epidemiological, and social-behavioral sciences to practice.	
	LO 2	LO 2 -Provides patient-centered care in biomedical, clinical, epidemiological sciences aimed at diagnosis, treatment and prevention of the most common diseases.	
	LO 3	LO 4 – 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 location of the Department of Normal Anatomy is 1 Al-Farabi Square, the main academic building, ground floor; internal phone – 40-82-22, 40-82-26 (263), e-mail: anatomia.2012@mail.ru. E-mail: www.ukma.kz. Topographic Anatomy and Histology: Shymkent, 3 Al-Farabi Sq., Academic Building No 2, 4th floor; auditoriums – No404 a, b; No 406; No408; No409, No411a, b. e-mail: Patan.gisto@mail.ru Normal physiology: Shymkent, Al-Farabi Square, academic building No 2, 4-5 floors; Tel. 40-82-26 (422,423);

6.2	**Number of hours**	Lectures	Practical	Lab. class	SIWT	SIW
		6	**24**	**-**	**9**	**51**

6.3 **Course Study Plan**

№	Discipline	Lecture	Prac	SIWT	SIW	Number of hours	
Day 1	Anatomy	1		1	5		
	Physiology		2				
	Histology		2				
Day 2	Anatomy		2				
	Physiology	1		1	7		
	Histology		2				
Day 3	Anatomy		2				
	Physiology		2				
	Histology	1		1	7		
Day 4	Anatomy	1					
	Physiology		2				
	Histology			2 MT-1	7		
Day 5	Anatomy		2	1	5		
	Physiology	1					
	Histology		2				
Day 6	Anatomy		2	1	4		
	Physiology		2				
	Histology	1					
Day 7	Anatomy						
	Physiology			2 MT-2	7		
	Histology		2				
Preparation and conduction of the interm assessment						**9**	

7.	**Instructor Details**		
№	**Full name**	**Degrees and position**	**E-mail address**
1.	Tanabayev Baimakhan Dilbarkhanovich	Head of the Department, Candidate of Medical Sciences, Professors	b.tanabayev@mail.ru
2.	Murzanova DinarAlpe Novna	Ph.D., Acting Professor	dina.murzanova@gmail.com
3.	Turekulova Akzharkyn Kenesovna	Senior Lecturer, Master	jarkin-74@mail.ru
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1.	Sisabekov Kasymkhan Ermekbayevich	Professor, Doctor of Medical Sciences	sisabekov47@mail.ru

2.	Zhumashev Seydaly Nurakhovich	Acting Professor, Doctor of Medical Sciences	sult_med@mail.ru
3.	Toimbetova Karlygash Abibullaevna	Senior Lecturer	tojmbetova71@mail.ru
5.	Zhakipbekova Galiya Saparovna	Candidate of Biological Sciences, Acting Professor	Galiya_074@mail.ru
6.	Satybaldieva Nazgul Mutalkhanovna	Master's Degree, Senior Lecturer	n_a_z_i_92@mail.ru
7.	Izbasarova Madina Seisenalievna	Senior Lecturer, Master	madiko91.91@mail.ru
8.	Sabit Akailym Yerlanovna	Senior Lecturer, Master	sae.260996@mail.ru

8. Thematic plan

Week Day	Topic Title	Short Summary	LO of the module	Number of hours	Methods/ Learning Technologies	Forms/ Assessment methods
1	**Anatomy** Lecture No1 Morphofunctional characteristics of hematopoietic organs and immunogenesis.	Structure and topography of hematopoietic organs and immunogenesis: bone marrow, thymus, spleen, lymph nodes.	LO1 LO2 LO3	1	Introduction	Feedback (control questions)
2	**Physiology** Lecture No1. Physiology of Blood. Composition of Blood, Formed Elements of Blood and Their Functions.	Physiology of blood. Composition of blood, formed elements of blood and their functions. Hemostasis.	LO1 LO2 LO3	1	Overview	Feedback (control questions)
3	**Histology** Lecture No1 Blood and lymph.	Morphofunctional characteristics of blood as a tissue. Cytofunctional features of erythrocytes and blood platelets, leukocytes.	LO1 LO2 LO3	1	Overview	Answers to control questions.
4	**Anatomy** Lecture No2 General morphology of the lymphatic system and its role in the body. The main links of this system and their structure.	Thoracic duct. Right lymphatic duct. Lymphatic vessels and nodes of individual areas of the body. Patterns of distribution of lymphatic vessels and nodes.	LO1 LO2	1	Overview	Feedback (control questions)
5	**Physiology** Lecture No2 Physiology of the lymphatic system. Immunity	Functions of the lymphatic system. Composition of lymph. Lymph formation. Lymph flow.	LO1 LO2 LO3	1	Overview	Feedback (control questions)

		Functions of the red bone marrow, thymus, liver, spleen, lymph nodes.				
6	**Histology** lecture No2 Hematopoietic organs and immunogenesis	Morphofunctional characteristics of hematopoietic organs. Classification, sources and course of development. Red bone marrow. Thymus. Lymph nodes. Spleen.	LO1 LO2	1	Overview	Answers to control questions.
1	Physiology Practical Lesson No1 General characteristics of body fluids. Physiology of blood. ESR. Hemolysis.	The concept of the internal environment of the organism. General physicochemical properties of blood. Quantity, function, composition of blood. Formed elements of blood. ESR. Hemolysis and its types.	LO1	2	discussion of the main issues of the topic, practical work, performance of test tasks, solving situational problems	Checklist for evaluating a practical lesson
	Histology Practical lesson No1 Blood and lymph1	Morphofunctional characteristics of blood as a tissue. Cytofunctional features of erythrocytes and blood platelets.	LO1 LO2 LO3	2	checklist of histo-specimens and micrographs	Checklist for evaluating the practical lesson.
2	Anatomy Practical lesson No1 Hematopoietic organs and immune system.	Central andperipheral organs of the immune system. Bone marrow. Thymus. Spleen. Tonsils. Lymph nodes.	LO1 LO2	2	work with anatomical specimens, torso, models, tables, tablets, posters, on the interactive panel "Pirogov" and/or solving test tasks and	Checklist of oral questioning; Checklist for solving situational problems; Checklist for completing test tasks

					situational tasks.	
	Histology Practical lesson No2 Blood and lymph2.	Morphofunctional characteristics of blood as a tissue. Cytofunctional features of the structure of granulocytes and agranulocytes.	LO1, LO2	2	checklist of histo-specimens and micrographs	Checklist for evaluating the practical lesson.
3	Anatomy Practical lesson No2 General morphology of the lymphatic system. The main links of this system and its structure.	Lymphatic vessels. Thoracic and right lymphatic ducts.	LO1 LO2 LO3	2	work with anatomical specimens, torso, models, tables, tablets, posters, on the interactive panel "Pirogov" and/or solving test tasks and situational tasks.	Checklist of oral questioning; Checklist for solving situational problems; Checklist for completing test tasks
	Physiology Practical Lesson No2 Leukocytes. Platelets. Blood groups / ABO system, Rh affiliation.	Quantity, function, composition of blood. Leukogram. Hemostasis. Characteristics and methods for determining blood group / ABO system, Rh affiliation.	LO1 LO2 LO3	2	discussion of the main issues of the topic, practical work, performance of test tasks, solving situational problems	Checklist for evaluating a practical lesson
4	Physiology Practical Lesson No3 Physiology of hematopoietic organs.	The role of red bone marrow, thymus, spleen, liver, lymph nodes in the process of hematopoiesis. The main clinical and hematological methods of studying the hematopoietic organs.	LO1 LO2 LO3	2	discussion of the main issues of the topic, performing test tasks, solving situational problems	Checklist for evaluating a practical lesson
	Anatomy Practical lesson No3 Lymphatic vessels, nodes of the walls and organs of the chest cavity.	Lymphatic vessels, nodes of the walls and organs of the chest cavity.	LO1 LO2	2	work with anatomical specimens, torso, models,	Checklist of oral questioning; Checklist for solving

					tables, tablets, posters, on the interactive panel "Pirogov" and/or solving test tasks and situational tasks.	situational problems; Checklist for completing test tasks
	Histology Practical lesson No3 Embryonic hematopoiesis.	Features of embryonic hematopoiesis and its main stages.	LO1 LO3	2	checklist of histo-specimens and micrographs	Checklist for evaluating the practical lesson.
	Physiology Practical lesson No4 Physiology of the lymphatic system.	Functions of the lymphatic system. Composition of lymph. Lymphatic formation. Lymphatic drainage Functions of the red bone marrow, thymus, liver, spleen and lymph nodes.	LO1 LO2 LO3	2	discussion of the main issues of the topic, performing test tasks, solving situational problems	Checklist for evaluating a practical lesson
	Anatomy Practical lesson No4 Lymphatic vessels, nodes of the walls and organs of the abdominal and pelvic cavity.	Lymphatic vessels, nodes of the walls and organs of the abdominal and pelvic cavity.	LO1 LO2	2	work with anatomical specimens, torso, models, tables, tablets, posters, on the interactive panel "Pirogov" and/or solving test tasks and situational tasks.	Checklist of oral questioning; Checklist for solving situational problems; Checklist for completing test tasks
	Histology Practical lesson No4 Organs of hematopoiesis and immunogenesis.	Morphofunctional characteristics of hematopoietic organs. Classification, sources and course of development. Red bone marrow. Thymus. Lymph nodes. Spleen	LO1, LO2	2	checklist of histo-specimens and micrographs	Checklist for evaluating the practical lesson.

	Anatomy of PSOP. 1 SIW Lymphatic vessels, head and neck nodes.	Lymphatic vessels, head and neck nodes.	LO1 LO2	1/6	Preparation and protection of siws in the form of: - *Description of the anatomical preparation on the anatomical panel "Pirogov"* - *presentation*	Evaluation sheets for certain forms of the completed task
	Physiology of SIWT. 1 SIW Physiological foundations of blood transfusion. Blood transfusion. SIW tasks 1. Analyze blood groups. 2. Analyze the Rh factor. In what cases is an Rh conflict possible? 3. Rules for blood transfusion.	Blood groups and physiological bases of blood transfusion. Blood transfusion.	LO1 LO2 LO3	1/6	Preparation and defense of the presentation	Checklist for SIW assessment
	Histology of SIWT. 1 SIW Hemogram. Leukocyte formula. SIW task: Describe the morphology and function of each type of leukocytes.	Understanding the hemogram and leukocyte formula, their age and sex characteristics. Lymph.	LO1, LO2	1/6	presentation defense, glossary compilation.	Checklist for SIW assessment
	Histology Boundary control – 1.	Consolidation of what has been learned on the topics of lectures, practical classes, PSROs and SROs.	LO1 LO2 LO3	2/6	Written solution of integrated situational tasks	Checklist for the implementation of the material of integrated situational tasks
	Anatomy of PSOP. 2 SIWs Lymphatic vessels, nodes of the upper and lower extremities.	Lymphatic vessels, nodes of the upper and lower extremities.	LO1 LO2	1/6	Preparation and protection of SIWin the form of: - Description of the anatomical preparation on the	Evaluation sheets for certain forms of the completed task

					anatomical panel "Pirogov" - presentation	
	Anatomy of PSOP. 3 SIW Lymphatic vessels, leg nodes.	Lymphatic vessels, leg nodes.	LO1 LO2	1/6	Preparation and protection of SIW in the form of: - Description of the anatomical preparation on the anatomical panel "Pirogov" - presentation	Evaluation sheets for certain forms of the completed task
	Physiology Boundary control – 2.	Consolidation of what has been learned on the topics of lectures, practical classes, SIWT and SIW.	LO1 LO2 LO3	2/6	Written solution of integrated situational tasks	Checklist for the implementation of the material of integrated situational tasks
	Preparation and conduct of intermediate attastion			9h		

9.	Teaching methods and forms of control	
9.1	Lectures	Introductory, review lecture.
9.2	Practical exercises	work in small groups with anatomical specimens, with a skeleton, skull, dummies, tablets, posters, on the interactive anatomical table "Pirogov" and/or solving test and situational (clinical) tasks, discussing the main issues of the topic, performing practical work, filling out a checklist of histological specimens and microphotographs.
9.3	SIW/SIWT	Preparation and protection of SIW in the form of: - Description of the anatomical specimen on the anatomical panel "Pirogov". Work in small groups, presentation defense, glossary compilation.
9.4	Boundary control	written – solving integrated situational problems

10	Evaluation criteria				
10.1 Criteria for assessing the results of the discipline					
№ LO	**Name of learning outcomes**	**Unsatisfactory**	**Satisfactory**	**Good**	**Excellent**
LO1	demonstrates	Does not know	1. Makes gross	1. Knows the	1. Demonstrates deep

		knowledge of the structures and general laws of the structure and functioning of cells, tissues, blood-forming organs and lymphatic systems, their mechanisms of regulation, considered from the standpoint of general morphophysiology and integrative behavioral activity of a person;	the structure, functions, cells, tissues, organs of blood and lymphatic systems, their mechanisms of regulation, and the chemical composition and biological functions of body tissues according to the systems of hematopoiesis and lymph.	mistakes in the description of structures and general regularities of the structure and functioning of cells, tissues, organs of blood and lymphatic systems, their mechanisms of regulation. 2. Makes gross mistakes when describing organs on models, wet anatomical specimens and the Pirogov interactive panel.	structure, functions, cells, tissues, organs of blood and lymphatic systems, their mechanisms of regulation, and the chemical composition and biological functions of body tissues, has difficulties in using anatomical terminology 2. Shows the main parts of organs on models, wet anatomical preparations and the Pirogov interactive panel.	knowledge of the structures and general laws of the structure and functioning of cells, tissues, blood-forming organs and lymphatic systems, their mechanisms of regulation, competently uses anatomical terminology when describing. 2. Confidently shows organs, their parts and structural details on models, wet anatomical specimens and the Pirogov interactive panel.
	LO2	Demonstrates knowledge of the main metabolic processes occurring in tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. Knows the basic physiological composition and functions of biological fluids normally in the human body.	1. Does not understand the metabolic processes occurring in these tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. 2. Does not know the basic physiological composition and functions of biological fluids normally in the human body.	1. Has a superficial understanding of the metabolic processes occurring in these tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. 2. Knows the basic physiological composition, but will not be	1. Shows a full understanding of the metabolic processes occurring in these tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. 2. Knows fully the basic physiological composition, but will not be able to fully explain the functions of biological fluids	1. Competently, at a high level, explains the main metabolic processes occurring in these tissues, the mechanisms of their regulation at the cellular level and the possible consequences of their disruption. 2. Fully knows the basic physiological composition and can fully explain the functions of biological fluids normally in the human body.

				able to explain the functions of biological fluids normally in the human body.	normally in the human body.	
	LO3	Demonstrates his knowledge and skills in conducting morphophysiological research, is able to analyze literary research and scientific articles in independent study of the discipline, is able to work in a group and apply knowledge and understanding in practice.	1. Does not have the skills to independently conduct morphophysiological studies. 2. Does not orient in the search for the necessary literary material, is not able to analyze scientific articles. 3. Does not show the ability to work in a team. 4. Has no idea of modern morphofunctional approaches in the diagnosis of human diseases. 5. Does not take advantage of opportunities to be informed about new discoveries and methods.	1. Makes inaccuracies in the conduct of morphophysiological and research, does not fully fulfill them. 2. Conducts a search for the necessary literary material, analyzes scientific articles, but expresses thoughts without logic and arguments. 3. Knows how to work in a team, but does not show initiative. 4. Has an idea of modern morphofunctional approaches in the diagnosis of human diseases. 5. Takes advantage of opportunities to be informed about new discoveries and methods with the participation of the teacher.	1. When conducting biochemical and morphophysiological studies, demonstrates good knowledge of theoretical material, shows research skills and aspirations for independent self-education. 2. Collects the necessary literary material for the study of a certain range of tasks, analyzes scientific articles, while showing critical thinking. 3. Is able to work in a team, clearly express his own thoughts and consult others, is able to advise on a possible number of applications of morphophysiological research. 4. Shows interest in the study of modern morphofunctional approaches in the diagnosis of human diseases.	1. Demonstrates: excellent skills in independent morphophysiological studies; analyzes the results of research, while showing excellent knowledge of the necessary theoretical material; the ability to predict the state of the body based on the data obtained and the desire for independent self-education. 2. Searches for the necessary information in reference materials, scientific literature, compares these data. He analyzes scientific articles, while showing critical thinking and the ability to clearly state his own beliefs. 3. Actively works in a team, argues his own beliefs, effectively exchanges information, is able to advise others on a possible number of applications of morphophysiological research. 4. Creatively approaches the study of modern morphofunctional approaches in the

					5. Makes extensive use of opportunities to be informed about new discoveries and methods in the field of morphophysiology	diagnosis of human diseases. 5. Takes the initiative to take full advantage of opportunities to be informed about new scientific discoveries and methods in the field of morphophysiology.

10.2 Assessment Methods and Criteria

Checklist for a practical lesson: Students are evaluated according to individual assessment criteria depending on the form/method of assessment used during the lesson (oral questioning, solving test tasks), their average score is set in the journal.

Checklist for SIW/SIWT: Scorecards for certain forms of the completed task

Intermediate certification: OSPE. Testing

A multi-point system for assessing knowledge:

Grade by letter system	Digital Equivalent of Points	Percentage	Assessment according to the traditional system
A	4,0	95-100	Excellent
A -	3,67	90-94	
Q+	3,33	85-89	Good
In	3,0	80-84	
In-	2,67	75-79	
C +	2,33	70-74	
With	2,0	65-69	Satisfactory
With-	1,67	60-64	
D+	1,33	55-59	
D-	1,0	50-54	
FX	0,5	25-49	Unsatisfactory
F	0	0-24	

Oral questioning

Shape control	Evaluation	Evaluation criteria
Oral response	Excellent Corresponds to the scores: 95-100 90-94	- performed practical work in a timely manner and without any errors and submitted a report on it; - took an active part in the discussion of the results of the study; - made a reasonable conclusion, while showing original thinking
	Good Corresponds to the scores: 85-89, 80-84 75-79, 70-74	- performed practical work in a timely manner and submitted a report on it, making non-fundamental mistakes; - took an active part in the discussion of the results of the study

	Satisfactory Corresponds to the scores: 65-69, 60-64 50-59	- performed practical work in a timely manner and submitted a report on it, having made fundamental mistakes; - did not show activity during the discussion, needed the help of the teacher
	Unsatisfactory Corresponds to the points 0-49	- did not submit a report on practical work in time, made gross mistakes, did not perform all the practical work provided for by the program; - did not take part in the discussion of the results of the work
	Unsatisfactory corresponds to the points 0-24	
Solving situational problems	Excellent corresponds to the points 95-100 90-94	- solved situational tasks in a certain time; - gave full answers to all questions
	Good corresponds to the points 85-89 80-84 75-79 70-74	- solved situational tasks in a certain time; - gave full answers to all questions; - made non-fundamental mistakes when solving situational problems
	Satisfactory corresponds to the points 65-69 60-64 50-54	- solved situational tasks in a certain time; - gave incomplete answers to questions; - made fundamental mistakes when solving situational problems
	Unsatisfactory corresponds to the points 25-49	- incorrectly solved situational tasks or did not solve them at all; - made gross mistakes when solving situational problems
	Unsatisfactory corresponds to the points 0-24	

Checklist of a practical lesson in physiology

Checklist for a practical lesson in physiology					
№	Evaluation criteria	Level			
		Excellent	**Good**	**Satisfactory**	**Unsatisfactory**
1	Performs the tasks of the initial testing	9-10	7-8,9	5-6,9	0-4,9
2	Practical work and discussion of research results	9-10	7-8,9	5-6,9	0-4,9

3	Explains the observed facts and phenomena in the performance of practical work, their cause-and-effect relationships	9-10	7-8,9	5-6,9	0-4,9
4	Solving and discussing situational tasks	9-10	7-8,9	5-6,9	0-4,9
5	Interpretation of the results of clin-laboratory studies	9-10	7-8,9	5-6,9	0-4,9
6	Teamwork skills	9-10	7-8,9	5-6,9	0-4,9
7	Discussion of the main issues of the topic	9-10	7-8,9	5-6,9	0-4,9
8	Determination of the mechanisms of physiological processes	9-10	7-8,9	5-6,9	0-4,9
9	Personal judgments when discussing a topic	9-10	7-8,9	5-6,9	0-4,9
10	Final Testing	9-10	7-8,9	5-6,9	0-4,9
Final grade:		100	70	50	0

The maximum score is 100. Total points _____Teacher's signature_____

Checklist for assessing a practical lesson in histology

Evaluation criteria	Level			
	Excellent	**Good**	**Satisfactory**	**Unsatisfactory**
Answers the questions of the individual test according to the "**Quizizz" program**	40	28	20	0
Answers questions of oral questioning (small groups)	20	14	10	0
Fills in tables	20	14	10	0
Performs situational tasks	20	14	10	0
Total:	100	70	50	0

Scorecard
Criteria for evaluating the description of an anatomical specimen
Full name of the student _____

No p/n	**Step Evaluation Criteria**	**Level**			
		Excellent 90-100	**Good 70-89**	**Satisfactory 50-69**	**Unsatisfactory 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 name 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 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 on posters, tablets and give its description.	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 talk 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_____

Assessment of test tasks (testing) according to a multi-point system for assessing knowledge.

Checklist for SIW/SIWT:

№	Criterion	Level, score in points			
		Excellent 90-100	**Good** 70-89	**Satisfactory** 50-69	**Unsatisfactory** 0-49
1.	The presence 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.	Compliance of the content of the presentation with the topic and tasks.	9-10	7-8,9	5-6,9	0-4,9
3.	Arrange 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 formulation, structure).	9-10	7-8,9	5-6,9	0-4,9
5.	Use of modern sources of information in sufficient quantities.	9-10	7-8,9	5-6,9	0-4,9
6.	Ability to generalize the material, 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, consistently.	9-10	7-8,9	5-6,9	0-4,9
9.	The ability to defend one's position and the ability to respond constructively to criticism.	9-10	7-8,9	5-6,9	0-4,9
10	The quality of the design of the slides (colorfulness, clarity, etc.).	9-10	7-8,9	5-6,9	0-4,9

The maximum score is 100. Total points _____Teacher's signature_____

Preparation and protection of histological slides and micrographs

Shape control	Evaluation	Evaluation criteria
Preparation of a	**Excellent**	The student prepared a presentation of 3 microslides and 3 microphotographs on the topic at the appointed time,

presentation of histological slides and micrographs and its protection.	Corresponds to the scores: 95-100 90-94	independently, accurately, with a volume of at least 6 content tables, 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.
	Good Corresponds to the scores: 85-89 80-84 75-79 70-74	The student prepared a presentation of 3 microslides and 3 microphotographs on the topic at the appointed time, independently, accurately, with at least 6 content tables, 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 the scores: 65-69 60-64 50-54	The student prepared a presentation of 3 microslides and 3 microphotographs on the topic at the appointed time, independently, but inaccurately, with a volume of at least 6 content tables, using less than 5 literary sources and the presence of an undeveloped plan, gave an insufficient number of diagrams, tables and drawings corresponding to the topic, answered questions unconfidently during the defense, made fundamental mistakes.
	Unsatisfactory Corresponds to the points 0-49	The student did not prepare a presentation of 3 microslides 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 content tables, without indicating 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.

11.	**Learning Resources**
Electronic resources	• SKMA Electronic Library - https://e-lib.skma.edu.kz/genres • Republican Interuniversity Electronic Library (RMEB) – http://rmebrk.kz/ • Digital Library "Aknurpress" - https://www.aknurpress.kz/ • Epigraph Electronic Library - http://www.elib.kz/ • Epigraph - portal of multimedia textbooks https://mbook.kz/ru/index/ • **EBS IPR SMART** https://www.iprbookshop.ru/auth • The information and legal system "Zan" - https://zan.kz/ru • Medline Ultimate EBSCO - https://research.ebsco.com/ • eBook Medical Collection EBSCO - https://research.ebsco.com/ • Scopus - https://www.scopus.com/ • Library - https://www.cochranelibrary.com/
E-Textbooks	Bilich G. L. Anatomy of a person. Atlas. In 3 vols. T.1. Musculoskeletal apparatus. Osteology. Syndesmologiya. Myology [Elektronnyi resurs] : uchebnik / G. L. Bilich, V. A. Kryzhanovskiy. - Elektron. tekstovye dan. (104 Mb). - Moscow: GEOTAR - Media, 2013. - e-mail. Opt. Disk Bilich G. L. Anatomy of a person. Atlas. V. 3 t. T. 3 [Elektronnyi resurs]: uchebnik / G. L. Bilich, V. A. Kryzhanovskiy. - Elektron. tekstovye dan. (157 Mb). - Moscow: GEOTAR - Media, 2013. - 792 p. Opt. Disk Bilich G. L. Anatomy of a person. Atlas. V 3 t. T. 2 [Elektronnyi resurs]: uchebnik / G. L. Bilich, V. A. Kryzhanovskiy. - Elektron. tekstovye dan. (179 Mb). - Moscow: GEOTAR - Media, 2013. - 824 p. Opt. Disk

Anatomy of a person. In 2 vols. Vol. 1 [Elektronnyi resurs] : uchebnik / pod red. M. R. Sapina. - Elektron. tekstovye dan. (674 Mb). - Moscow: GEOTAR - Media, 2013. - 528 p. e-mail. Opt. Disk
Human anatomy. In 2 vols. Vol. 2 [Elektronnyi resurs] : uchebnik / pod red. M. R. Sapina. - Electron. textual dan. (674 Mb). - Moscow: GEOTAR - Media, 2013. - 456 p. Opt. Disk
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Normal Physiology [Elektronnyi resurs] : uchebnik / pod red. B. I. Tkachenko. - 3-e izd., ispr. i dop. - Elektron.tekstovye dan. (53.1Mb). - M. : GEOTAR - Media, 2017. - e-mail. Opt.disk
Fundamentals of General Physiology: Textbook / A.Kh. Shandaulov.– Almaty: Evero, 2020.– 240 p.: https://elib.kz/ru/search/read_book/91/
Qasymbekov V. K., t.b.Kalypty fızıologıa boıynsha ahýaldyq esepter jiyntyǵy.Oqý-ádistemelik quraly. – Almaty: Evero, 2020.https://www.elib.kz/ru/search/read_book/2775/
Georgieva S.A. Human Physiology: Almaty: Evero, 2020. ill., 480 p.https://www.elib.kz/ru/search/read_book/2796/
Kasymbekov V.K. et al.Situational Tasks in the Course of Normal Physiology. Educational and Methodological Manual.– Almaty: Evero, -2020. – 144 p. https://www.elib.kz/ru/search/read_book/2774/
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Bykov V. L., Yushkantsev S. I. Histology, Cytology and Embryology [Elektronnyi resurs] : atlas: ucheb. posobie [Atlas: textbook] / V. L. Bykov, S. I. Yushkantsev. - Electron. tekstovye dan. (68.6 Mb). - Moscow: GEOTAR - Media, 2013. - 296 p.
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Kuznetsov, S.L., Mushkambarov, N.N.
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Laboratory physical resources	Skeleton, set of bones, models, torso, electronic tablets, interactive anatomical table "Pirogov", anatomical panel "Pirogov" Microscopes, a set of slides, an atlas of micrographs. Models, Sivtsev table, Forster perimeter, electrocardiograph, tonometer, phonendoscope, Sali hemometer.
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Tuńgyshbaeva Z.B. Cytology and histology of negizderi: praktikum / Z. B. Tuńgyshbaeva. - Almaty : AQHYP, 2019. - 152 pages. p
Textbook of Human Histology. Inderbir Singh /Sixth Edition/Inderbir Singh 2010.-386 p. Human Histology Textbook

12. Discipline Policy

Requirements for students:

- not to be late for classes;
- not to miss classes without good reason;
- have anatomical gloves, tweezers and scalpel;
- to be active during practical classes;
- be able to work in a team;
- to perform and submit SIW in a timely manner, according to the schedule;
- not to engage in extraneous affairs during classes;
- be tolerant, open and friendly to fellow students and teachers;
- observe ethical standards of behavior when working with anatomical specimens and organs of the human body;
- takes care of the property of the department;
- to work out missed classes in a timely manner for valid reasons;
- observe safety precautions in the classroom.

13. During lectures / practical classes / SIWT, students are prohibited from:

1. use mobile devices / gadgets;
2. Leave the classroom (leave the workplace at the clinical/production 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-cut 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 a corresponding report to the dean's office.

- A student who did not appear at the midterm control without a valid reason and received an unsatisfactory grade for one of the types of controls (MT1, MT2, MTav) is not allowed to take the exam in the discipline; A student who did not appear at the MT for a valid reason, immediately after starting classes, with the permission of the dean's office, receives a work sheet.
- For 1 missed lecture, for an unjustified reason, the staff score is 1.0 points and is deducted from the grades of the midterm control.
- For 1 absence of the SIWT, for an unjustified reason, the penalty point is 2.0 points and is deducted from the SIWgrades
- Incentive points are taken into account according to the policy of the department. Incentive points are added to the assessment of the midterm control. For active participation in the work of the Council of People's Commissars and seminars in each discipline, the student is awarded an incentive point from 5 to 10.

If students do not score 50% of the current rating (i.e. 30 points), then they are not allowed to take the final control (exam).
Requirements for students, attendance, behavior, grading policies, penalties, incentives, etc.

Students must:

● comply with medical ethics and deontology;
● Do not smoke in the academy;
● keep the department clean;
● Do not damage furniture in classrooms;
● take care of textbooks;
● observe the appearance of a student of a medical university;
● comply with safety rules;
● wear masks during the flu epidemic;
● not to miss classes without a valid reason;
● work out classes missed for a valid reason in a timely manner, but only with the admission of the dean's office and at a time determined by the teacher;
● not to be late for classes;
● have the necessary documentation in the classroom: a syllabus, methodological recommendations for classes, lectures, a notebook and a textbook;
● conscientiously prepare for classes;
● be active during classes;
● Do not engage in extraneous activities during classes: do not talk, do not smoke, do not chew 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;
● maintain silence and order during breaks;
● timely perform and submit SIW(in electronic form) according to the schedule; with checking written works for plagiarism.

Penalties for failure to perform sections of work:

● in case of missing lectures without a valid reason, the score of the midterm control is reduced - 1 point for each missed lecture;
● if the SIWT is missed without a valid reason, the grade for the SIW is reduced - 2 points for each missed lesson;
● in case of late submission of the SIW without a valid reason (later than the specified week), the SIW is not accepted;
● In case of a single violation of the discipline policy, the student is given a warning;
● In case of systematic violation of the discipline policy, information about the student's behavior is transferred to the dean's office of the faculty;

Criteria for non-admission to the final control

● **Students** who received an unsatisfactory grade for one of the types of controls (midterm control 1, midterm control 2, average assessment of the current control) are not allowed to the final control in the discipline.

13.	**Academic policy based on the moral and ethical values of the academy**
	www.ukma.kzRegulations and Rules of SKMA. Academic Policy.

Clause 4 Student's Code of Honor

P.10. Organization of the educational process

P.12. Grading policy

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

The final grade is calculated automatically based on the average assessment of the current control, the average assessment of the midterm controls and the assessment of the final control:

Tolerance Rating (60%) = Average Score for Mid-Term Controls (20%) + Average Score for Current Controls (40%)

Average score of mid-range controls = MT1 + MT2/ 2

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

Final grade (100%) = RQav x 0.2 + TCrx 0.4 + IC x 0.4

Final Score (100%)= Clearance Rating (60%) + Final Inspection (40%)

Example of calculating the final grade of a student:

Penalty points:

For example, a student missed 2 lectures = 1.0 x 2 = 2.0 points

For missing 1 PSOP = 2.0 points

RC 1 – 80 points

RC 2 – 90 points

$RCavg = \frac{(80-2)+90}{2} = 84$ points

Arithmetic average assessment of current control (practice and laboratory classes) – 80 points

SIW1 – 75 points

SIW2 – 85 points

SIW... – the number of SIW

$\text{Average SIWscore} = \frac{75 + 85 + N...}{2 + N\ldots} = 80$ points

Average current score, taking into account SIW and penalty points:

$CCav^* = \frac{CCav + SIWav}{2} - SIW = \frac{80 + (80 - 2.0)}{2} = \frac{158}{2} = 79.0$

Tolerance rating (60%)=RKsr x 0.2 + CCsr x 0.4 = 84 x 0.2 + 79.0×0.4 = 16.8 + 31.6 = 48.4 points

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

90 x 0.4 = 36 points

Final grade (100%) =

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

2) MTav x 0.2 + CCav x 0.4 + IC x 0.4 = 84.0 x 0.2 + 79.0 x 0.4 + 90 x 0.4 = 16.8 + 31.6 + 36 = 84.4 points

RKsr – average assessment of midterm controls

CCav – Average Assessment of Current Control

FC – assessment of the final control

MT 1 - Mid-term control 1

MT 2 – Midterm Control 2

RD – Tolerance Rating

CCav* - average current assessment taking into account SIW and standard points

Amlec – 1st Lecture Missed Rate

AmSIW is the skip coefficient of the 1st SIWT

14. Approval, approval and revision			
Date of approval	**Protocol No**	**Full name of the head**	**Signature**
Library and Information Center	Protocol No 7 25.06.25	Head of BIC Darbicheva R.I.	
Date of approval at the department	Protocol No 11 24.06.2025	Head of the Department of Morphophysiology, Candidate of Medical Sciences, Professor Tanabayev B.D	
Date of approval at the department	Protocol No 11 26.06.25	Head of the Department of Topographic Anatomy and Histology , Candidate of Medical Sciences, Acting Professor Murzanova D.A.	
Date of approval for the AE EP Medicine	Protocol No 6 27.06.25	Chairman of the EP Medicine Áuyezkhankyzy D.	
Date of revision at the department	Protocol No ___	Head of the Department of Morphophysiology, Candidate of Medical Sciences, Professor Tanabayev B.D	
Date of revision at the department	Protocol No ___	Head of the Department of Topographic Anatomy and Histology , Candidate of Medical Sciences, Acting Professor Murzanova D.A.	
Date of review on Ak OP Medicine	Protocol No ___	Chairman of the EP Medicine Áuyezkhankyzy D.	