

Syllabus

Department of Pathology and Forensic Medicine

Working study program of the discipline “General Pathology” Educational program 6B10115 “Medicine”

1.	General information about the discipline		
1.1	Discipline code: EP 3214	1.6	Academic year: 2024-2025
1.2	Name of discipline: General pathology	1.7	Course: 3
1.3	Prerequisites: Musculoskeletal system and skin in the norm, nervous system and organs of senses and vision in the norm, cardiorespiratory system in the norm, digestive and endocrine systems in the norm, genitourinary system in the norm, blood and lymph in the norm	1.8	Semester: 5
1.4	Post-requisites: Musculoskeletal system and skin in pathology, nervous system and organs of senses and vision in pathology, cardiorespiratory system in pathology, digestive and endocrine systems in pathology, genitourinary system in pathology, blood and lymph in pathology	1.9	Number of credits (ECTS): 6/180
1.5	Cycle: BD	1.10	Component: IC
2.	Description of the discipline		
Formation of fundamental knowledge about the patterns of development of typical general pathological processes for the diagnosis of the most common diseases; skills in pathophysiological analysis of clinical and laboratory data, description of macro- and micropreparations, understanding of the pathophysiological basis for the prevention and treatment of various diseases. Etiopathogenesis, morphogenesis, morphology, outcome.			
3.	Summative Assessment Form		
3.1	☒ Testing	3.5	Coursework
3.2	Writing	3.6	Essay
3.3	Oral	3.7	Project
3.4	☒ OSPE/OSCE or practical skills checking	3.8	Other (specify)
4.	Objectives of the discipline		
1. Formation of a holistic understanding of the mechanisms of development of general pathological processes, based on the study of issues of general nosology, the concept of pre-disease, disease, their stages, general etiology, pathogenesis and morphogenesis of pathological processes.			
2. Formation of clinical thinking skills based on the application of knowledge of pathophysiological mechanisms, pathoanatomical changes, complications and outcomes of general pathological processes developing in various diseases.			
5.	Final learning outcomes (LO of the discipline)		
LO 1	Demonstrates knowledge of general pathology, understanding of the patterns of development of changes in cells and tissues in various pathological conditions.		
LO 2	Explains the etiology, pathogenesis, morphogenesis of general pathological processes.		
LO 3	Determines pathological changes and functional disorders at the organ, tissue and cellular levels, describes macro- and micropreparations and analyzes the results of clinical, laboratory and experimental studies.		
LO 4	Makes conclusions on macro- and micropreparations, as well as on the results of clinical, laboratory and experimental studies and predicts outcomes of pathological changes in organs and tissues during general pathological processes when solving cases.		
5.1	LO of the discipline	EP learning outcomes with which LO of the discipline are associated	
	LO 1	LO 1 Applies fundamental knowledge of biomedical, clinical, epidemiological and social behavioral sciences.	

LO 2 LO 3 LO 4	LO 2 Provides patient-centered care in the fields of biomedical, clinical, epidemiological and social-behavioral sciences aimed at the diagnosis, treatment and prevention of the most common diseases. LO 11. Analyzes the results of research and professional activities based on scientific data.
----------------------	--

6. Detailed information about the discipline

6.1	Venue: SKMA, Department of Pathology and Forensic Medicine: Shymkent, sq. Al-Farabi, 3, educational building No. 2, 4th floor; audiences – No. 404 a, b; No. 406; No. 408; No. 409, No. 411a, b. e-mail: Patan.gisto@mail.ru
-----	---

6.2	Number of hours	Lectures	Practical class	Lab.	SIWT	SIW
		12	48		18	102

6.3 Discipline study plan

Days		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Hours
Class form																	
General patolo - gical physiology (3 cr.)	Lec	1		1				1			1		1		1		6
	Pract	3		3		4		3	2		3		3		3		24
	SIWT	1		1		1		2	1		1		1		1		9
	SIW	6		6		7			6		6		6		5		42+9(PA)= 51
General patolo - gical anatomy (3 cr.)	Lec		1				1			1		1		1		1	6
	Pract		3		4		3		2	3		3		3		3	24
	SIWT		1		1		1		1	1		1		1		2	9
	SIW		6		7		5		6	6		6		6			42+9(PA)= 51

7. Information about teachers

No.	FULL NAME	Degrees and position	Email address	Scientific interests etc.	Note
1	Sadykova Aliya Shamilevna	Head of the department of pathology and forensic medicine, doctor of medical sciences, acting professors	aliya.sadykova.66@mail.ru	The topic of the scientific interests is "Pathology of the immune system, pathological anatomy of tumors"	Author of 84 scientific publications, 5 textbooks, 1 patent for invention, 1 monograph
2	Kerimov Rassim Azatovich	Master, Senior teacher	Kir-2004@list.ru	The topic of the scientific interests is "Diagnostics and prevention of colorectal cancer"	Author of 20 scientific publications
3	Ignatyeva Anastassiya Sergeevna	Senior teacher	zhelonkina_88@mail.ru	-	-
4	Berdaliev Gulmira Bakhytkyzy	Senior Lecturer	Mira -3505@mail.ru	-	Author of 6 scientific publications
5	Kerimbekova Mariam Otelovna	Teacher	-	-	-
6	Kurymbaeva Ainur Rashidkyzy	Assistant	Smp_zoj@mail.ru	-	-

7	Seydakbar Aysana Usenovna	Teacher	aseydakbar @ mail.ru	-	Author of 2 scientific publications
8	Edige Aidana Zhandoskyzy	Assistant	a.edige93 @mail.ru	The topic of the scientific interests is “Shymkent kalasy er azamattarynyn arasynda myocardial infarction damuyna climatic factorlardyn aseri”	
9	Duysembieva Zhazira Merey k yzy	Teacher	zhazira0508 @mail.ru	The topic of the scientific interests “Ontustik Kazakhstan aymagyndagy turgyndardyn salauatty omir saltyn kalypastyrudyn gylymi negizderi”	Author of 3 scientific publications

8. Thematic plan							
Day	Class form	Topic name	Summary	LO of the module	Numb er of hours	Forms/ methods/ educational technologies	Forms/ assessment methods
1	Pathological physiology. Lecture 1	Subject, tasks and methods of pathological physiology. General nosology. General etiology and pathogenesis	Subject, tasks and methods of pathological physiology. General nosology. Disease, concept, stages. Pre-disease, concept. General etiology and pathogenesis. Etiological factors, types. The main link in pathogenesis. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 1	Subject, tasks and methods of pathological physiology. General nosology. General etiology and pathogenesis	Subject, tasks and methods of pathological physiology. General nosology. Disease, concept, stages. Pre-disease, concept. General etiology and pathogenesis. Etiological factors, types. The main link in pathogenesis. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list
	Pathological physiology. SIWT/SIW 1	The action of pathogenic environmental factors. The role of reactivity in pathology	Damaging effect on the body of mechanical and physical factors. Pathogenic effects of sound, temperature, electric current. Reactivity and resistance, concept, types, forms. Factors determining reactivity. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
2	Pathological anatomy. Lecture 1	Subject, goals, objectives, objects, methods and levels of	Subject, goals, objectives, objects, methods and levels of research in pathological anatomy. Autopsy. Biopsy.	LO1	1	Review lecture	Blitz survey Feedback

		research in pathological anatomy	Experiment. Clinical significance				
	Pathological anatomy. Practical lesson 1	Subject, goals, objectives, objects, methods and levels of research in pathological anatomy	Subject, goals, objectives, objects, methods and levels of research in pathological anatomy. Autopsy. Biopsy. Experiment. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT/SIW 1	Cell pathology	Participation in autopsies at a clinical base	LO2 LO3 LO4	1/6	Autopsy	Check list
3	Pathological physiology. Lecture 2	Cell pathology	Cell damage, concept, types, causes, mechanisms. Free radical lipid peroxidation. Mechanisms of cell protection and adaptation during damage. Antioxidant systems. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 2	Cell pathology	Cell damage, concept, types, causes, mechanisms. Free radical lipid peroxidation. Mechanisms of cell protection and adaptation during damage. Antioxidant systems. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list
	Pathological physiology. SIWT/SIW 2	The role of heredity in pathology. General body reactions to damage	Mutations. Classification of hereditary pathology. Etiology and pathogenesis of gene and chromosomal diseases. Stress, concept, stages. "Selye's Triad". Shock, concept, stages, types. Coma, concept, types, main links in pathogenesis. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
4	Pathological anatomy. Practical lesson 2	Cell pathology. Protein metabolism disorder	Alteration. Dystrophies. Classification. Parenchymal protein, lipid, carbohydrate degenerations. Etiology, pathogenesis, morphogenesis, pathological anatomy. Outcome. Clinical significance	LO2 LO3 LO4	4	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT/SIW 2	Metabolic disorders	Protein, lipid, carbohydrate stromal-vascular dystrophies. Etiology, pathogenesis, morphogenesis, pathological anatomy. Outcome. Clinical significance	LO2 LO3 LO4	1/7	Case - study	Check list
5	Pathological physiology. Practical lesson 3	Disorders of carbohydrate metabolism.	Disorders of digestion, absorption, storage and intermediate metabolism of	LO2 LO3 LO4	4	Work in small groups,	Check list

		Disorders of lipid metabolism.	carbohydrates. Hypoglycemia and hyperglycemia, types, causes. Disorders of digestion, absorption and transport of lipids. Hyperlipemia. Obesity, causes, types. Clinical significance			discussion of the topic, case - study	
	Pathological physiology. SIWT/SIW 3	Disorders of protein metabolism Disorders of mineral metabolism and vitamin metabolism	Disorders of the breakdown of food proteins, endogenous protein synthesis and breakdown, amino acid metabolism and the final stage of protein metabolism. Fasting, forms, periods. Disorders of macro- and microelements, manifestations. Hypo- and hypervitaminosis, mechanisms of development and manifestations. Clinical significance	LO2 LO3 LO4	1/7	Case - study	Check list
6	Pathological anatomy. Lecture 2	Metabolic disorders	Mixed dystrophies. Etiology, pathogenesis, morphogenesis, pathological anatomy. Outcome. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological anatomy. Practical lesson 3	Metabolic disorders	Mixed dystrophies. Etiology, pathogenesis, morphogenesis, pathological anatomy. Outcome. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT/SIW 3	Mineral metabolism disorders	Mineral dystrophies. Classification, mechanism of development of mineral dystrophies. Stone formation. Consequences of stone formation. Clinical significance	LO2 LO3 LO4	1/5	Case - study	Check list

7	Pathological physiology. Lecture 3	Hypoxia. Peripheral circulation disorders	Hypoxia, concept, types, etiology, pathogenesis, compensatory reactions. Shifts of oxyhemoglobin dissociation curve. Forms of peripheral circulatory disorders. Arterial hyperemia, venous hyperemia, ischemia, stasis, thrombosis and embolism, concept, causes, development mechanisms, symptoms, consequences. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 4	Hypoxia. Peripheral circulation disorders	Hypoxia, concept, types, etiology, pathogenesis, compensatory reactions. Shifts of oxyhemoglobin dissociation curve. Forms of peripheral circulatory disorders. Arterial hyperemia, venous hyperemia, ischemia, stasis, thrombosis and embolism, concept, causes, development mechanisms, symptoms, consequences. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list
	Pathological physiology. SIWT 4	Midterm examination No. 1	Topics of lectures, practical classes, individual work, completed during 1-7 days of training	LO1 LO2 LO3 LO4	2	Integrated control of educational achievements with use of control study cases, testing	Check list
8	Pathological anatomy. Practical lesson 4	Necrosis	Necrosis. Mechanism of development, classification of necrosis. Microscopic signs of necrosis. Outcome. Clinical significance	LO2 LO3 LO4	2	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT 4	Disorders of tissue fluid exchange	Disorder of tissue fluid content. Increased tissue fluid content. Decreased tissue fluid content. Mechanism of development. Classification. Macro- and microscopic signs. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
	Pathological physiology. Practical lesson 5	Disorders of water and electrolyte metabolism	Water balance, types. Dehydration, concept, types, causes, mechanisms of development. Overhydration,	LO2 LO3 LO4	2	Work in small groups, discussion of the topic,	Reverse connection

			concept, types, causes, mechanisms of development. Edema and effusion, concept, types, pathogenetic factors. Clinical significance			case - study	
	Pathological physiology. SIWT/SIW 5	Acid-base disorders	Classification of acid-base disorders. Acidoses and alkaloses, types, causes, clinical and laboratory manifestations, compensation mechanisms. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
9	Pathological anatomy. Lecture 3	Circulatory disorders	Hyperemia. Arterial hyperemia. Venous congestion. Clinical significance	LO1	1	Review lecture	Feedback
	Pathological anatomy. Practical lesson 5	Circulatory disorders	Venous congestion. Anemia. Types. Etiology. Pathogenesis. Morphogenesis. Pathological anatomy. Outcome. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy SIWT/SIW 5	Circulatory disorders	Bleeding. Plasmorrhagia. Stasis. Thrombosis. Morphology of the thrombus. Morphogenesis of thrombosis. Embolism. Types. Pathological anatomy. Outcome. DIC syndrome. Shock. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
10	Pathological physiology. Lecture 4	Inflammation	Inflammation, concept, etiology, pathogenesis, types, course, outcomes, manifestations. Alteration, mediators of inflammation. Microcirculation disorders at the site of inflammation. Exudation and emigration of leukocytes, mechanisms. Proliferation. Clinical significance	LO1	1	Review lecture	Feedback
	Pathological physiology. Practical lesson 6	Inflammation	Inflammation, concept, etiology, pathogenesis, types, course, outcomes, manifestations. Alteration, mediators of inflammation. Microcirculation disorders at the site of inflammation. Exudation and emigration of leukocytes, mechanisms. Proliferation. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list

	Pathological physiology. SIWT/SIW 6	Pathophysiology of the infectious process Fever	Infectious process, concept, causes, mechanisms of development. Sepsis, concept, types. Fever, concept, etiology, pathogenesis, stages, types, meaning. Metabolism and organ function during fever. Difference between fever and hyperthermia. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
11	Pathological anatomy. Lecture 4	Inflammation	Inflammation. Exudative inflammation. Proliferative inflammation. Pathological anatomy. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological anatomy. Practical lesson 6	Inflammation	Inflammation. Exudative inflammation. Proliferative inflammation. Immune inflammation. Pathological anatomy. Outcome. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT/SIW 6	Inflammation	Pathological anatomy of sepsis. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
12	Pathological physiology. Lecture 5	Immunopathological processes	Allergy, concept, etiology. Types of allergens. Sensitization. Classifications and general pathogenesis of allergic reactions. Pathogenesis of allergic reactions of types I, II, III, IV. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 7	Immunopathological processes	Allergy, concept, etiology. Types of allergens. Sensitization. Classifications and general pathogenesis of allergic reactions. Pathogenesis of allergic reactions of types I, II, III, IV. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list
	Pathological physiology. SIWT/SIW 7	Immunopathological processes	Immunodeficiency conditions, concept, types, mechanisms of formation, manifestation. AIDS, etiopathogenesis, stages, manifestations. Autoimmune process, concept, stages of development. Pathogenetic classes of autoimmune diseases. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list

13	Pathological anatomy. Lecture 5	Immunopathological processes	Morphology of disorders of immunogenesis. Pathology of the thymus, peripheral lymphoid tissue with disorders of immunogenesis. Hypersensitivity reactions. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological anatomy. Practical lesson 7	Immunopathological processes	Morphology of disorders of immunogenesis. Pathology of the thymus, peripheral lymphoid tissue with disorders of immunogenesis. Hypersensitivity reactions. Autoimmunization and autoimmune diseases. Immunodeficiency syndromes. Primary and secondary immunodeficiency syndromes. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparations with conclusion, case study	Check list
	Pathological anatomy. SIWT/SIW 7	Compensatory adaptive processes. Regeneration	Regeneration. Processes of adjustment (adaptation) and compensation. Sclerosis. Clinical significance	LO2 LO3 LO4	1/6	Case - study	Check list
14	Pathological physiology. Lecture 6	Tumors	Tumors, concept, types, etiology. Pathogenesis of tumor growth. Paraneoplastic syndromes, concept, manifestations. Cancer cachexia, concept, pathogenesis. Mechanisms of antitumor resistance of the body. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback
	Pathological physiology. Practical lesson 8	Tumors	Tumors, concept, types, etiology. Pathogenesis of tumor growth. Paraneoplastic syndromes, concept, manifestations. Cancer cachexia, concept, pathogenesis. Mechanisms of antitumor resistance of the body. Clinical significance	LO2 LO3 LO4	3	Work in small groups, discussion of the topic, case - study	Check list
	Pathological physiology. SIWT/SIW 8	Pathology of tissue growth	Disorder of the main periods of human growth. Hypo- and hyperbiotic processes, types, dysfunction of organs. Clinical significance	LO2 LO3 LO4	1/5	Case - study	Check list
15	Pathological anatomy. Lecture 6	Tumors	Tumors of epithelial coverings and endocrine glands. Precancer concept. Mesenchymal tumors. Tumors of melanin-forming tissue and nervous system. Benign and malignant tumors. Cancer. Sarcoma. Metastasis. Clinical significance	LO1	1	Review lecture	Blitz survey Feedback

	Pathological anatomy. Practical lesson 8	Tumors	Tumors of epithelial coverings and endocrine glands. Precancer concept. Mesenchymal tumors. Tumors of melanin-forming tissue and nervous system. Benign and malignant tumors. Cancer. Sarcoma. Metastasis. Clinical significance	LO2 LO3 LO4	3	Discussion of the topic, description of macro- and micropreparati ons with conclusion, case study	Check list
	Pathological anatomy. SIWT 8	Midterm examination No. 2	Topics of lectures, practical classes, individual work, completed during 8-15 days of training	LO1 LO2 LO3 LO4	2	Integrated control of educational achievements with use of control study cases, testing	Check list
8.1	Preparation and conduct of intermediate certification						18 hours
9.	Teaching methods						
9.1	Lectures		Review lectures				
9.2	Practical lessons		Work in small groups, discussion of the topic, case - study, description of macro- and micropreparations with conclusion				
9.3	SIWT/SIW		Case - study, autopsy				
9.4	Midterm examination		Integrated control of educational achievements with use of control study cases, testing				
10.	Assessment criteria						
10.1	Criteria for assessing the results of the discipline						
No. RO	Name of learning outcomes		Unsatisfactory	Satisfactorily	Good		Excellent
LO 1	Demonstrates knowledge of general pathology, understanding of the patterns of development of changes in cells and tissues in various pathological conditions		Does not explain the patterns of development of changes in cells and tissues in various pathological conditions	Experiences difficulties in explaining the patterns of development of changes in cells and tissues in various pathological conditions	Explains the patterns of development of changes in cells and tissues in various pathological conditions		Freely explains the pattern and development of changes in cells and tissues in various pathological conditions
LO 2	Explains the etiology, pathogenesis, morphogenesis of general pathological processes		Does not demonstrate knowledge of the etiology, pathogenesis, morphogenesis of general pathological processes	Demonstrates knowledge of etiology, pathogenesis, morphogenesis of general pathological processes, but makes gross mistakes	Demonstrates knowledge of etiology, pathogenesis, morphogenesis of general pathological processes, but allows unprincipled inaccuracies		Demonstrates knowledge of etiology, pathogenesis, morphogenesis of general pathological processes
LO 3	Determines pathological changes and functional disorders at the organ, tissue and cellular levels, describes macro- and micropreparations and analyzes the results of clinical, laboratory and experimental studies		1. Does not determine pathological changes and functional disorders at the organ, tissue and cellular levels.	1. Determines pathological changes and functional disorders at the organ, tissue and cellular levels.	1. Determines pathological changes and functional disorders at the organ, tissue and cellular levels.		1. Independently determines pathological changes and functional disorders at the

		2. Does not describe macro- and micro - preparations and does not analyze the results of clinical, laboratory and experimental studies	2. Describes macro- and micro - preparations and analyzes the results of clinical laboratory and experimental studies, but makes gross mistakes	2. Describes macro- and micro - preparations and analyzes the results of clinical laboratory and experimental studies, but allows minor inaccuracies	organ, tissue and cellular levels. 2. Independently describes macro- and micro - preparations and analyzes the results of clinical laboratory and experimental studies
LO 4	Makes conclusions on macro- and micropreparations, as well as on the results of clinical, laboratory and experimental studies and predicts outcomes of pathological changes in organs and tissues during general pathological processes when solving cases	1. Does not make conclusions on macro- and micro - preparations, as well as on the results of clinical, laboratory and experimental studies in general pathological processes. 2. Does not predict the outcomes of pathological changes in organs and tissues during general pathological processes when solving cases	1. Makes conclusions on macro- and micro - preparations, as well as on the results of clinical, laboratory and experimental studies in general pathological processes, but makes gross mistakes. 2. Predicts the outcomes of pathological changes in organs and tissues during general pathological processes, but makes gross mistakes when solving cases	1. Makes conclusions on macro- and micro - preparations, as well as on the results of clinical, laboratory and experimental studies in general pathology logical processes, but allows unprincipled inaccuracies. 2. Predicts the outcomes of pathological changes in organs and tissues during general pathological processes, but allows unprincipled inaccuracies when solving cases	1. Independently makes conclusions on macro- and micro - preparations, as well as on the results of clinical, laboratory and experimental tests research in general pathological processes. 2. Independently predicts the outcomes of pathological changes in organs and tissues during general pathological processes when solving cases

10.2 Criteria for assessing teaching methods and technologies

Multi-point knowledge assessment system

Letter grade	Digital equivalent of points	Percentage	Traditional assessment
A	4.0	95-100	Excellent
A -	3.67	90-94	
B +	3.33	85-89	
B	3.0	80-84	Good
B -	2.67	75-79	
C +	2.33	70-74	
C	2.0	65-69	Satisfactorily
C -	1.67	60-64	
D+	1.33	55-59	
D-	1.0	50-54	Unsatisfactory
FX	0.5	25-49	
F	0	0-24	

Checklist for class

Form of control	Grade	Criteria of assessment
Work in small groups (for practical work)	Excellent corresponds to points 95-100 90-94	- completed the practical work in a timely manner and without any errors and submitted a report on it; - took an active part in the discussion of research results; - did the right conclusion, showed original thinking
	Good corresponds to points 85-89 80-84 75-79 70-74	- completed the practical work in a timely manner and submitted a report on it, allowing unprincipled errors; - took an active part in the discussion of research results;
	Satisfactorily corresponds to points 65-69 60-64 50-54	- completed the practical work in a timely manner and submitted a report on it, allowing fundamental errors; - was not active during the discussion, needed help of teacher
	Unsatisfactory corresponds to points 25-49	- failed to submit a report on time practical work, made serious mistakes, did not complete all the practical work, provided for by the program;
	Unsatisfactory corresponds to points 0-24	- did not participate in the discussion of the results of the work
Case - study	Excellent corresponds to points 95-100 90-94	- solved cases within a certain time; - gave complete answers to all questions
	Good corresponds to points 85-89 80-84 75-79 70-74	- solved cases within a certain time; - gave complete answers to all questions; - when solving cases made unprincipled mistakes
	Satisfactorily corresponds to points 65-69 60-64 50-54	- solved cases within a certain time; - gave incomplete answers to questions; - made fundamental mistakes when solving cases
	Unsatisfactory corresponds to points 25-49	- solved the cases incorrectly or did not solve them at all; - made serious mistakes when solving cases
	Unsatisfactory corresponds to points 0-24	
Work in small groups (interpretation of the results of clinical and laboratory data)	Excellent corresponds to points 95-100 90-94	- correctly, without any errors, interpreted the results of clinical and laboratory data; - made a reasonable conclusion
	Good corresponds to points 85-89 80-84 75-79	- correctly interpreted the results of clinical and laboratory data, making unprincipled errors; - made a reasonable conclusion

	70-74	
	Satisfactorily corresponds to points 65-69 60-64 50-54	- correctly interpreted the results of clinical and laboratory data, making fundamental errors; - made an unfounded conclusion
	Unsatisfactory corresponds to points 25-49	- incorrectly interpreted the results of clinical and laboratory data, making gross mistakes; - did not make a conclusion
	Unsatisfactory corresponds to points 0-24	
Discussion of the topic	Excellent corresponds to points 95-100 90-94	- did not make any mistakes during the discussion; - was oriented in the theories, concepts and directions of general pathology and gave them a critical assessment; - used scientific achievements of other disciplines
	Good corresponds to points 85-89 80-84 75-79 70-74	- during the discussion he did not make gross mistakes, but made inaccuracies and unprincipled errors, which he corrected himself; - managed systematize program material with the help of a teacher
	Satisfactorily corresponds to points 65-69 60-64 50-54	- made fundamental mistakes during the discussion; - limited himself only to educational literature indicated by the teacher; - experienced great difficulties in systematizing the material
	Unsatisfactory corresponds to points 25-49	- made serious mistakes during the discussion; - did not study the basic literature on the topic of the lesson; - failed to use the scientific terminology of general pathology
	Unsatisfactory corresponds to points 0-24	
	Excellent corresponds to points 95-100 90-94	- performed correctly 90-100% of test tasks
	Good corresponds to points 85-89 80-84 75-79 70-74	- performed correctly 70-89% of test tasks
	Satisfactorily corresponds to points 65-69 60-64 50-54	- performed correctly 50-69% of test tasks
Testing	Unsatisfactory corresponds to points 25-49	- performed correctly in less than 50% test tasks
	Unsatisfactory corresponds to points 0-24	

Checklist for answers to the description of macropreparations

No.	Evaluation criterion/score	Excellent	Good	Satisfactory	Unsatisfactory
1	Organ name	4	3	2	0
2	Organ size	10	7	5	0
3	Surface: condition of the capsule or serosa, dullness, shine, coverings	1	1	1	0
4	Characteristics of the pathological focus: Localization, size, shape (if the ulcer – bottom condition), color, consistency	5	4	2	0
5	Pathological diagnosis/conclusion				
6	Total	20	15	10	0

Checklist for answers to the description of micropreparations

No	Evaluation criterion/score	Excellent	Good	Satisfactory	Unsatisfactory
1	Name of organ or tissue	4	3	2	0
2	Characteristics of pathological changes: localization, description	10	7	5	0
3	Coloring	1	1	1	0
4	Pathological diagnosis/conclusion	5	4	2	0
5	Total	20	15	10	0

11. Learning Resources

Electronic resources	Патологическая физиология: https://www.aknurpress.kz/reader/web/2476 https://www.elib.kz/ru/search/read_book/472/ https://www.elib.kz/ru/search/read_book/471/ https://www.elib.kz/ru/search/read_book/473/ https://www.elib.kz/ru/search/read_book/91/ https://www.elib.kz/ru/search/read_book/88/ https://www.elib.kz/ru/search/read_book/98/ https://www.elib.kz/ru/search/read_book/96/ https://www.elib.kz/ru/search/read_book/100/ https://www.elib.kz/ru/search/read_book/896/ https://www.elib.kz/ru/search/read_book/895/ https://www.aknurpress.kz/reader/web/2583 https://www.aknurpress.kz/reader/web/1016 https://www.aknurpress.kz/reader/web/1449 https://www.iprbookshop.ru/10144.html https://www.iprbookshop.ru/91045.html	Патологическая анатомия: https://www.elib.kz/ru/search/read_book/861/ https://www.aknurpress.kz/reader/web/2357 https://aknurpress.kz/reader/web/2423 http://rmebrk.kz/book/15133 https://elib.kz/ru/search/read_book/144/ https://elib.kz/ru/search/read_book/141/ https://aknurpress.kz/reader/web/1016 https://www.iprbookshop.ru/74392.html https://www.iprbookshop.ru/6074.html https://www.iprbookshop.ru/6211.html https://www.iprbookshop.ru/20116.html https://www.iprbookshop.ru/31850.html https://www.elib.kz/ru/search/read_book/846/ https://www.aknurpress.kz/reader/web/1041 https://mbook.kz/viewer/course/854 https://www.iprbookshop.ru/119965.html
Electronic textbooks	Патологическая физиология: 1. Патологиялық физиология. Тәжірибелік сабақтарға нұсқау [Электронный ресурс] : оқу құралы = Патофизиология. Руководство к практическим занятиям : учебное пособие / каз. тіліне ауд. С. Б. Жәутікова ; ред. В. В. Новицкий. - Электрон. текстовые дан. (63,4Мб). - М. : ГЭОТАР - Медиа, 2014. - 768 бет. эл. опт. диск (CD-ROM) 2. Адам физиологиясы. Динамикалық сызбалар атласы [Электронный ресурс] : оқулық / К. В. Судаков [ж.б.] ; қазақ тіл. ауд. М. Қ. Қанқожа. - Электрон. текстовые дан. (105Мб). - М. : ГЭОТАР - Медиа, 2017. - 464б. 3. Патологиялық физиология. Досжанова М.П., – Алматы: Эверо, 2015 ЦБ Aknurpress / https://www.aknurpress.kz/reader/web/2476	

4. Кравцов В.И и др. Тестовые задания по патологической физиологии с элементами профилизации / Под ред. профессора В.И. Кравцов. - Алматы: Эверо, 2020. - 116 с. https://www.elib.kz/ru/search/read_book/472/
5. Кравцов В.И и др. Тестовые задания по патологической физиологии с элементами профилизации / Под ред. профессора В.И. Кравцов. - Алматы: Эверо, 2020. - 128 с. https://www.elib.kz/ru/search/read_book/471/
6. Кравцов В.И и др. Тестовые задания по патологической физиологии с элементами профилизации / Под ред. профессора В.И. Кравцов. - Алматы: Эверо, 2020. - 104 с. https://www.elib.kz/ru/search/read_book/473/
7. Патологиялық физиология: 2 том. Оқулық/қазақ тіліне аударған, жауапты редактор Ж.Б. Ахметов. , – Алматы: Эверо, 2020 - 200 https://www.elib.kz/ru/search/read_book/91/
8. Патологиялық физиология: 1 том. Оқулық/қазақ тіліне аударған, жауапты редактор Ж.Б.Ахметов., – Алматы: Эверо, 2020 - 240 с https://www.elib.kz/ru/search/read_book/88/
9. Патологическая физиология: Учебник для медицинских вузов. 2 том. Алматы: Эверо, 2020 – 216 https://www.elib.kz/ru/search/read_book/98/
10. Адо А.Д, Адо М.Л, Пыцкого В.И., Порядина Г. В., Владимирова Ю.Л. Патологическая физиология: учебник для медицинских вузов. 1 том. Алматы: Эверо, 2020 - 248 с. https://www.elib.kz/ru/search/read_book/96/
11. Адо А.Д, Адо М.Л, Пыцкого В.И., Порядина Г. В., Владимирова Ю.Л. Патологическая физиология: Учебник для медицинских вузов. 3 том. Алматы: Эверо, 2020 https://www.elib.kz/ru/search/read_book/100/
12. Уразалин. Тест тапсырмалары, Профилизация элементтерімен бірге патологиялық физиология, Бойынша мамандықтар: 051301-жалпы медицина, 051302-стоматология. III-бөлім. Гемостаз қан жүйесінің, қанайналым және тыныс алу жүйелерінің патофизиологиясы. Алматы, «Эверо» баспасы, 2020 ж., 142 б. https://www.elib.kz/ru/search/read_book/896/
13. Уразалин. Тест тапсырмалары. Профилизация элементтерімен бірге патологиялық физиология, Бойынша мамандықтар: 051301-жалпы медицина, 051302-стоматология. II-бөлім. Типтік патологиялық процестер, Біртектес дерттік үрдістер. Алматы, «Эверо» баспасы, 2020 ж., 184 б. https://www.elib.kz/ru/search/read_book/895/
14. Уразалин. Тест тапсырмалары, Профилизация элементтерімен бірге патологиялық физиология, Бойынша мамандықтар: 051301-жалпы медицина, 051302-стоматология. IV-бөлім. Асқорыту, бауыр, бүйрек, эндокриндік және жүйке жүйелерінің патофизиологиясы. Алматы, «Эверо» баспасы, 2020 ж., 204 б. https://www.elib.kz/ru/search/read_book/897/
15. Адо А.Д, Адо М.Л, Пыцкого В.И. , Порядина Г.В. , Владимирова Ю.Л. Патологиялық физиология: 3 том. Оқулық/қазақ тіліне аударған, жауапты редактор Ж.Б. Ахметов. – Алматы: Эверо, 2020 – 344 https://www.elib.kz/ru/search/read_book/94/
16. Қалыпты және патологиялық жағдайындағы балалар мен жасөспірімдер гинекологиясы. Раисова А.Т., Байқошқарова С.Б. , – Алматы: Эверо, 2020 ЦБ Акнурпресс / <https://www.aknurpress.kz/reader/web/2583>
17. Нормы и патологии детской и подростковой гинекологии. Раисова А.Т. , – Алматы: Эверо, 2020 ЦБ Акнурпресс <https://www.aknurpress.kz/reader/web/2584>
18. Анатомия, физиология, патология органов слуха, речи, зрения. Ахметова Н.Ш. , – Алматы: Эверо, 2019 ЦБ Акнурпресс / <https://www.aknurpress.kz/reader/web/1016>
19. Мамандандырылған патологиялық физиология курсы. Жәутікова С.Б., Өмірбаева Е.К. , – Алматы: Эверо, 2019 ЦБ Акнурпресс / <https://www.aknurpress.kz/reader/web/1449>
20. Коган, Б. М. Анатомия, физиология и патология сенсорных систем : учебное пособие / Б. М. Коган, К. В. Машилов. — Москва : Аспект Пресс, 2011. — 384 с. — ISBN 978-5-7567-0560-7. — Текст : электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/8873.html>
21. Герасимова, О. В. Патология основных систем жизнеобеспечения. Том 1 : учебное пособие / О. В. Герасимова. — Самара : РЕАВИЗ, 2009. — 143 с. — Текст : электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/10144.html>
22. Патологическая физиология: теоретический курс = Pathological physiology: theoretical course : учебное пособие / Е. В. Куликов, Ю. А. Ватников, В. И. Паршина, В. М. Бяхова. — Москва : Российский университет дружбы народов, 2018. — 92 с. — ISBN 978-5-209-08472-3. — Текст

: электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/91045.html>

Патологическая анатомия:

1. Патологическая анатомия [Электронный ресурс] : атлас: учеб. пособие для студентов мед. вузов и последипломного образования / под ред. О. В. Зайратьянц. - Электрон. текстовые дан. (240 Мб). - М. : ГЭОТАР - Медиа, 2012. - 960 с. эл. опт. диск (CD-ROM). - (Электронный учебник).
2. Митрофаненко, В. П. Патологияның негіздері [Электронный ресурс] :мед. училищелер мен колледждерге арн. оқулық = Основы патологии : / - Электрон. текстовые дан. (154Мб). - М. : ГЭОТАР - Медиа, 2015. - 568б. с.
3. Патологическая анатомия [Электронный ресурс] : национальное рук. / гл. ред.М. А. Пальцева,. - М. : ГЭОТАР - Медиа, 2013. - 1264 с
4. Тусупбекова, М. М. Морфологический атлас общепатологических процессов [Электронный ресурс] : учебник / М. М. Тусупбекова. - Электрон. текстовые дан. (1.03Гб). - Алматы : Эпиграф, 2016. -
5. Струков, А. И. Патологическая анатомия [Электронный ресурс]: учебник - М. : ГЭОТАР - Медиа, 2013
6. Кисманова Г.Н..Жалпы патологиялық процестер нұсқауы. Оқулық.- Алматы: Эверо, 2020. – 92 бет Эпиграф
7. https://www.elib.kz/ru/search/read_book/861/
Несеп-жыныс ағзаларының анатомиясы.Ахмад Н.С. ,– Алматы: Эверо, 2020 ЦБ Aknurpress /
8. <https://www.aknurpress.kz/reader/web/2357>
Патологиялық анатомия Ахметов Ж.Б. , 2021. <https://aknurpress.kz/reader/web/2423>
Жұмабеков, Х.С., Дербышев, К.Ю. Жануарлардың патологиялық анатомиясы
<http://rmebrk.kz/book/15133>
Ахметов Ж. Б. Патологиялық анатомия – Оқулық. 1 том. Алматы: Эверо, 2020ж. - 360 бет.
https://elib.kz/ru/search/read_book/144/
Ахметов Ж. Б. Патологиялық анатомия – Оқулық. 2 том. Алматы: Эверо, 2020ж. - 344 бет.
https://elib.kz/ru/search/read_book/141/
Ахметова Н.Ш. Анатомия, физиология, патология органов слуха, речи,
9. зрения: учебное пособие (3-е издание). Караганда: Издательство
10. «АҚНҰР», 2021. - 192 с. <https://aknurpress.kz/reader/web/1016>
Поморгайло, Е. Г. Диагностика общепатологических процессов глазами студента 3 курса. Часть 1. Общая патологическая анатомия : учебное пособие / Е. Г. Поморгайло, М. В. Маркелова ; под редакцией Е. В. Лопанова, А. В. Кононов. — Саратов : Ай Пи Эр Медиа, 2018. — 77 с. — ISBN 978-5-4486-0328-0, 978-5-4486-0329-7. — Текст : электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/74392.html>
Чернобай, Г. Н. Патологическая анатомия орофациальной области, головы и шеи : учебное пособие / Г. Н. Чернобай. — Кемерово : Кемеровская государственная медицинская академия, 2011. — 122 с. — Текст : электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/6074.html>
Демко, П. С. Руководство к самостоятельной внеаудиторной подготовке студентов к практическим занятиям по курсу общей патологической анатомии / П. С. Демко, О. Д. Сидорова, Г. Н. Чернобай. — Кемерово : Кемеровская государственная медицинская академия, 2009. — 124 с. — Текст : электронный // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/6211.html>
Недзьведь, М. К. Патологическая анатомия и патологическая физиология : учебник. — Минск : Вышэйшая школа, 2010. — 272 с. // ЦОР IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/20116.html>
Практикум по общему курсу патологической анатомии : учебное пособие / составители В. С. Полякова [и др.], под редакцией В. С. Полякова. — Оренбург : Оренбургская государственная медицинская академия, 2011. — 193 с. // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: <https://www.iprbookshop.ru/31850.html>
Чернобай, Г. Н. Частная патологическая анатомия : учебное пособие. — Кемерово : Кемеровская государственная медицинская академия, 2011. — 236 с. — Текст : электронный //

	Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: https://www.iprbookshop.ru/6095.html Патологиялық проц. мен аурулардың морф. көріністерінің салыст. сипаттамасы. Манекенова К.Б., Омаров Т.М., Досмамбетова Ж.Қ., Смайлова Г.Қ., Дүкенбаева Б.А. , 2019 ЦБ Aknurpress 11. https://www.aknurpress.kz/reader/web/1452 Түсіпбекова М.М.Клиникалық патоморфология / М.М.Түсіпбекова. –Алматы: «Эверо» баспасы, 2020.-188 б Эпиграф 12. https://www.elib.kz/ru/search/read_book/462/ Дукенбаева Б.А.Жалпы патологиялық анатомияның екінші бөлімі: «Қанайналым бұзылыстары». – Оқу құралы. Алматы: Эверо, 2020. – 120 б Эпиграф https://www.elib.kz/ru/search/read_book/4197/ Кисманова Г.Н.Жалпы патологиялық процестер нұсқауы. Оқулық.- Алматы: Эверо, 2020. – 92 бет Эпиграф 13. https://www.elib.kz/ru/search/read_book/861/ Ө.Т. Раисова, С.Б. Байқошқарова «Қалыпты және патология жағдайындағы балалар мен жасөспірімдер гинекологиясы». – Алматы:«Эверо», 2020 ж. - 224 бет Эпиграф https://www.elib.kz/ru/search/read_book/815/ Каракушикова А.С., Рахимова К.В., Абдуллаева Г.М Перинатальная патология у недоношенных детей: клинко-иммунологическая диагностика, лечение и реабилитация: Эверо, 2020. – 186 Эпиграф 14. https://www.elib.kz/ru/search/read_book/846/ Іш қуысының анатомиясы және хирургиялық операция әдістері: 1-том. Оқу құралы/Алибеков А.Е.// Алматы, Эверо, 2020. -316 б. Эпиграф https://www.elib.kz/ru/search/read_book/6466/ Бас және мойынның клиникалық анатомиясы Қайырбекова Қ.Қ. , – Алматы: Эверо, 2017 ЦБ Aknurpress https://www.aknurpress.kz/reader/web/1850 Есту, сөйлеу және көру мүшелерінің анатомиясы, физиологиясы, патологиясы.Туғанбекова К.М., Ахметова Н.Ш., Тамабаева М.К. , – Қарағанды, 2019 https://www.aknurpress.kz/reader/web/1041 Құраш, А. Ф. Бастың және мойынның қабыну аурулары Т. 2 [Мәтін] : оқулық / А. Ф. Құраш. - Алматы : New book, 2022 Мулти мед учеб 15. https://mbook.kz/viewer/course/854Зубрицкий, М. Г. Атлас по патологической анатомии = Atlas of pathological anatomy : учебное пособие. — Минск : Вышэйшая школа, 2021. — 272 с. // Цифровой образовательный ресурс IPR SMART : [сайт]. — URL: https://www.iprbookshop.ru/119965.html
Literature	Патологическая физиология: Основная: 1. Патофизиология. 2 томдық. 1 т.: оқулық / қазақтіл. ауд. Б. А. Жетпісбаев ; ред. В. В. Новицкий. - М. : ГЭОТАР - Медиа, 2017. - 640 бет. 2. Патофизиология. Екі томдық. 2 т. :оқулық / қазақтіл. ауд. С. Б. Жәутікова ; ред. В. В. Новицкий. - М. : ГЭОТАР - Медиа, 2018. - 464 б. +эл. опт.диск (CD-ROM). 3. Нұрмұхамбетұлы, Ө. Клиникалық патофизиология. I - том: оқулық Патофизиология-II және оның клиникалық медицинадағы мәселелеріне нұсқама. - 2-ші бас. - Алматы :Эверо, 2016. - 180б. с. 4. Нұрмұхамбетұлы, Ө. Клиникалық патофизиология. 2 -т. Патофизиология - 2 және оның клиникалық медицинадағы маңызды мәселелеріне нұсқама :оқулық. - 2-ші бас. - Алматы :Эверо, 2016. - 252 бет. 5. Нұрмұхамбетұлы, Ө. Клиникалық патофизиология. 3 т. Патофизиология - II және оның клиникалық медицинадағы маңызды мәселелеріне нұсқама: оқулық. - 2-ші бас. - Алматы :Эверо, 2016. - 248 бет. 6. Нұрмұхамбетұлы, Ө. Патофизиология. 1 том :оқулық / Ө. Нұрмұхамбетұлы. - өнд., толықт. 3-бас. - Алматы :Эверо, 2015. - 182 бет 7. Нұрмұхамбетұлы, Ө. Патофизиология. 2 том: оқулық / Ө. Нұрмұхамбетұлы. - өнд., толықт. 4-бас. - Алматы :Эверо, 2015. - 214 бет 8. Нұрмұхамбетұлы, Ө. Патофизиология. 3 том: оқулық / Ө Нұрмұхамбетұлы. - өнд., толықт. 4-бас. - Алматы :Эверо, 2015. - 216 бет

9. Нұрмұхамбетұлы, Ә. Патофизиология. 4 том: оқулық / Ә. Нұрмұхамбетұлы. - өнд., толықт. 4-бас. - Алматы :Эверо, 2015. - 154 бет
 - 10.Патофизиология : оқулық. 2 томдық. 1 том / казак тіл. ауд. Б. А. Жетпісбаев ; ред. В. В. Новицкий. - 4-бас.өнд.толық. - М. : ГЭОТАР - Медиа, 2017. - 640
 - 11.Патофизиология : оқулық. 2 томдық. 2 том / казак тіл. ауд. С. Б. Жәутікова ; ред. В. В. Новицкий. - 4-бас.өнд.толық. - М. : ГЭОТАР - Медиа, 2018. - 464 б. +эл. опт. диск (CD-ROM).
 - 12.Патологическая физиология. Т. 1 : учеб. для мед. вузов / ред. А. Д. Адо [и др.]. - Алматы : Эверо, 2014. - 244 с.
 - 13.Патологическая физиология. Т. 2 : учебник для мед. вузов / А. Д. Адо [и др.]. - Алматы : Эверо, 2015. - 216 с.
 - 14.Ефремов, А. В. Патофизиология. Основные понятия : учебное пособие / А. В. Ефремов, Е. Н. Самсонова, Ю. В. Начаров . - М. : ГЭОТАР - Медиа, 2010. - 256 с.
 - 15.Фролов, В. А. Общая патологическая физиология : учебник / Рек. учебно-метод. объедин. по мед. и фарм. образ. вузов России. - М. : Издательский дом "Высшее образование и Науки", 2013. - 568 с. : ил.
 - 16.Патологическая физиология (Общая и Частная) : учебник / В.А. Фролов [и др.]. - 4-е изд.,пер.и доп. - М. : Издательский дом "Высшее образование и наука", 2019. - 730 с.
 - 17.Ахметова, Н. Ш. Анатомия, физиология, патология органов слуха, речи, зрения [Текст] : учебное пособие. - 3-е изд. - Караганда : АҚНҰР, 2019. - 192 с
 - 18.Патофизиология. В 2 т. Т. 2 [Текст] : учебник / под ред. В. В. Новицкого, Е. Д. Гольдберга, О. И. Уразовой ; М-во образования и науки РФ. - 4-е изд., перераб. и доп ; Рек. ГОУ ВПО "ММА им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2012. - 640 с. + эл. опт. диск (CD-ROM)
 - 19.Патофизиология. В 3 т. Т. 3 [Текст] : учебник / А. И. Воложин [и др.] ; под ред. А. И. Воложина, Г. В. Порядина. - Рек. УМО объедин. по мед. и фарм. образованию вузов России в качестве учебника. - М. : Академия, 2006. - 304 с. - (Высшее проф. образование).
 - 20.Jain, A. K. Textbook of physiology : textbook. Vol. 1 / A. K. Jain . - 6 th ed. - Nev Delhi : Avichal publishing company, 2015. - 590 p.Перевод заглавия: Учебник физиологии
 - 21.Jain, A. K. Textbook of physiology : textbook. Vol. 2 / A. K. Jain . - 6nd ed. - Nev Delhi : Avichal publishing company, 2015. - 1121 p. Перевод заглавия: Учебник физиологии
 - 22.Norris, Tommie L. Porth's Pathophysiology: Concepts of Altered Health States [Text] : textbook / Tommie L. Norris. - 10 nd ed. - [S. l.] : Wolters Kluwer, 2019. - 1573 p. - ISBN 978-1-4963-7759-3 : 48115 Tr. Перевод заглавия: Патофизиология Porth's: концепции измененных состояний здоровья
 - 23.Pathophysiology. Volume 1. : the book for medical institutes / A. D. Ado [and others]. - Almaty : "Evero", 2017. - 216 p.
 - 24.Pathophysiology. Volume 2. : the book for medical institutes / A. D. Ado [and others]. - Almaty : "Evero", 2017. - 188 p.
 - 25.Pathophysiology. Volume 3. : the book for medical institutes / A. D. Ado [and others]. - Almaty : "Evero", 2017. - 323 p.
 - 26.Pathophysiology of Disease: An Introduction to Clinical Medicine.7rd. ed McGraw-Hill Education, 2014
 - 27.Kharissova, N. M. Physiology of the digestive system : teaching textbook / N. M. Kharissova. - Алматы : Эверо, 2016. - 428 p.
- Дополнительная:**
1. Патологиялық физиология. Тәжірибелік сабақтарға ұсақу:оқу құралы = Патофизиология. Руководство к практическим занятиям : учеб.пособие / В. В. Новицкий [ж. б.]; ред. басқ. В. В. Новицкий, О. И. Уразова ; қаз. тіліне ауд. С. Б. Жәутікова. - М. : ГЭОТАР - Медиа, 2014. - 768 бет.с.
 2. Уразалина, Н. М. Тест тапсырмалары. II-бөлім. Біртектес дерттікүрдістер: - Алматы :Эверо, 2014. - 184 бет.
 3. Жәутікова, С. Б. Мамандандырылған патологиялық физиология курсы: оқу-әдістемелік құралы / С. Б. Жәутікова, Е. Қ. Өмірбаева ; ҚР денсаулық сақтау министрлігі; ҚММУ. - Карағанды : ЖК "Ақнұр", 2013. - 268 бет.

4. Жәутікова, С. Б. Патологиялық физиология пәні бойынша ситуациялық есептер жинағы: оқу-әдістемелік құрал. - Қарағанды : ЖК "АқНұр 2013
5. Патофизиология. Задачи и тестовые задания: учеб.-методическое пособие / под ред. П. Ф. Литвицкого ; М-во образования и науки РФ. - ; Рек. ГОУ ВПО "ММА им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2013. - 384 с. : ил
6. Роуз, Алан Г. Атлас патологии. Макро- и микроскопические изменения органов: атлас: пер. с англ. под ред. Е. А. Коган / Алан Г. Роуз ; ред. Е. А. Коган. - М. : ГЭОТАР - Медиа, 2010. - 576 с.
7. Klatt, Edward C Robbins and Cotran Atlas of Pathology : textbook / Edward C. Klatt. - 3th ed. - Philadelphia : Elsevier Saunders, 2014. - 587 p. - ISBN 978-1-4557-4876-1 : 33050.00 Тг. Перевод заглавия: Роббинс и Котран Атлас патологии

Патологическая анатомия:

Основная:

1. Ахметов, Ж. Б. Патологиялық анатомия. Т.1: оқулық / Ж. Б. Ахметов. - Алматы : New book, 2022. - 360 бет.
2. Ахметов, Ж. Б. Патологиялық анатомия. Т.2: оқулық / Ж. Б. Ахметов. - Алматы : New book, 2022. - 344 бет.
3. Роббинс дерттану негіздері (жалпы бөлім). 1 : оқулық / ред. В. Кумар [ж/б]. - / Қазақ тіліне аударған Қ. Қарымбаев ; ҚР білім және ғылым министрлігі. - Алматы : Эверо, 2014. - 480 бет
4. Манекенова К.Б. Патологиялық процестер мен аурулардың морфологиялық көріністерінің салыстырмалы сипаттамасы. Оқу құралы. "Sky Systems" 2019
5. Ахметов, Ж. Б. Патологиялық анатомия: оқулық. - М. : "Литтерра", 2016. - 792 бет с.
6. Струков, А. И. Патологиялық анатомия :оқулық /. - М. : ГЭОТАР - Медиа, 2015. - 984 бет.
7. Патология. Екі томдық. 1 том.:оқулық / Ред. бас. М. А. Пальцев, Қаз. тіл. ауд. С. А. Апбасова. - М. : ГЭОТАР - Медиа, 2015. - 536 бет с. : ил.
8. Ахметов, Ж. Б. Патологиялық анатомия :оқулық / Ж. Б. Ахметов. - ; ҚР денсаулық сақтау министрлігі. - Алматы :Эверо, 2014. - 700 бет.
9. Патологическая анатомия. Т.1. Общая патология : учебник: в 2-х томах / под ред. В. С. Паукова. - 2-е изд. доп. - М. : ГЭОТАР - Медиа, 2020. - 720 с.
- 10.Патологическая анатомия. Т.2. Частная патология : учебник: в 2-х томах / под ред. В. С. Паукова. - 2-е изд. доп. - М. : ГЭОТАР - Медиа, 2020. - 528 с.
- 11.Струков, А. И. Патологическая анатомия : учебник. - 6-е изд., перераб. и доп. - М. : ГЭОТАР - Медиа, 2021. - 880 с.
- 12.Манекенова К.Б. Сравнительная характеристика морфологических проявлений патологических процессов и заболеваний. Учебное пособие. "Sky Systems"2019
- 13.Есиркепов, М. М.Патологическая анатомия генома : учеб.-наглядное пособие - Караганда : ИП "Изд-во АҚНҰР", 2013
- 14.Kumar , V. Robbins Basic Pathology : textbook / V. Kumar , A. K. Abbas, J. C. Aster. - 10 nd ed. - [S. l.] : Elsevier, 2017. - 930 p.
- 15.Kumar , Vinay Robbins and Cotran. Pathologic Basis of Disease : south Asia edition. Vol. 2 / V. Kumar , Abyl K. Abbas, Jon C. Aster. - 9nd ed. - [S. l.] : Reed Elsevier india private limmed, 2015. - 1391 p. .
- 16.Kumar , Vinay Robbins and Cotran. Pathologic Basis of Disease : south Asia edition. Vol. 1 / V. Kumar , Abyl K. Abbas, Jon C. Aster. - 9 nd ed. - [S. l.] : Reed Elsevier india private limmed, 2015. - 1391 p.

Дополнительная:

1. Патологиялық анатомия атлас: = Патологическая анатомия : атлас: учеб. пособие - М. : ГЭОТАР - Медиа, 2014.
2. Кисманова, Г. Н. Жалпы патологиялық процестер нұсқауы : оқу құралы / Г. Н. Кисманова. - Алматы : Эверо, 2010. - 122 бет.
3. Повзун, С. А. Патологическая анатомия в вопросах и ответах: учеб. пособие / С. А. Повзун. - 3-е изд., перераб. и доп. ; Рек. ГБОУ ВПО "Первый Мос. гос. мед. ун-т им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2016. - 176 с. -

4. Патологическая анатомия. Руководство к практическим занятиям: учебное пособие / М-во образ. и науки РФ. Рек. ГБОУ ВПО "Первый МГМУ им. И. М. Сеченова" ; Под. ред. О. В. Зайратьянца, Л. Б. Тарасовой. - 2-е изд., испр. и доп. - М. : ГЭОТАР - Медиа, 2015. - 696
5. Патологическая анатомия. Руководство к практическим занятиям [Текст] : учебное пособие / ред. О. В. Зайратьянца. - 2-е изд., испр. и доп. - М. : ГЭОТАР - Медиа, 2021. - 696 с.
6. Тусупбекова, М. М. Клиническая патоморфология: монография / М. М. Тусупбекова. - Алматы :Эверо, 2016. - 184 с.
7. Тусупбекова, М. М. Морфологический атлас общепатологических процессов: учебное пособие. - Алматы :Эверо, 2016. - 164 с.
8. Моисеев, В. С. Острая сердечная недостаточность : руководство / В. С. Моисеев, Ж. Д. Кобалава. - М. : ООО "Медицинское информационное агентство", 2012. - 328 с
9. Роуз, Алан Г. Атлас патологии. Макро- и микроскопические изменения органов [Текст] : атлас: пер. с англ. под ред Е. А. Коган / Алан Г. Роуз ; ред. Е. А. Коган. - М. : ГЭОТАР - Медиа, 2010. - 576 с
10. Синельников, А. Я. Атлас микроскопической патологии человека: учеб. пособие. - ; Рек. Учеб.-методическим об-нием по мед. и фарм. образованию вузов России. - М. : Новая волна : Издатель Умеренков, 2007. - 320 с.
11. Klatt, Edward C Robbins and Cotran Atlas of Pathology : textbook / Edward C. Klatt. - 3th ed. - Philadelphia : Elsevier Saunders, 2014. - 587 p.
- Klatt, Edward C Robbins and Cotran Atlas of Pathology : textbook / Edward C. Klatt. - 3th ed. - Philadelphia : Elsevier Saunders, 2014. - 587 p.

12. Discipline policy

Requirements for students (attendance, behavior, grading policy, penalties, incentives, etc.)

- observe medical ethics and deontology;
- do not smoke in the academy;
- maintain cleanliness in the department;
- do not damage furniture in classrooms;
- treat textbooks with care;
- maintain the appearance of a medical student;
- comply with safety regulations;
- during quarantine, wear medical masks and comply with the sanitary and epidemiological regime;
- do not miss classes without a good reason;
- classes missed for a valid reason must be made up in a timely manner, but only with the permission of the dean's office and at the time specified by the teacher;
- not be late for classes;
- have the necessary documentation in class: syllabus, guidelines for classes, lectures, notebook and textbook;
- prepare conscientiously 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 food, do not use the telephone, 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;
- carry out SIW in a timely manner.

Penalties for failure to complete sections of work:

- If you miss lectures without a good reason, your midterm test score will be reduced – 1 point for each missed lecture;
- if you miss the SIWT without a good reason, the midterm control score is reduced - 2 points for each missed lesson;
- 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 final examination:

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

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

SKMA Regulations and Rules. Academic Policy.

P.4 Student Code of Honor

P.10. Organization of the educational process

P.12. Grading Policy

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

$$\text{Final score (100\%)} = \text{RA (60\%)} + \text{FC (40\%)}$$

$$\text{RA (60\%)} = \text{ME avg (20\%)} + \text{CC avg (40\%)}$$

$$\text{RK av} = (\text{RK 1} + \text{RK 2}) : 2$$

$$\text{Final score (100\%)} = \text{ME avg} \times 0.2 + \text{CC avg} \times 0.4 + \text{FC} \times 0.4$$

RA – rating of allowance

FC - assessment of final control

ME avg – average score of midterm control, taking into account penalty points

CC av – average assessment of current control taking into account SIW

ME 1 – midterm examination 1

ME 2 – midterm examination 2

14. Agreement, approval and revision

Date of agreement with the Library and Information Center	Protocol No.	FULL NAME of head of the LIC	Signature
14.06.24	9	Darbicheva R.I.	
Date of approval by the department	Protocol No.	FULL NAME of head	Signature
		Bagnubek A.K.	
Date of approval on AK EP	Protocol No.	FULL NAME of Chairman of the CEP	Signature
26.05.24	11		
Date of revision at the department	Protocol No.	FULL NAME of head	Signature
14.06.24	11	Kolmenov H.D.	
Date of revision on AK EP	Protocol No.	FULL NAME of Chairman of the CEP	Signature