


ОҢТҮСТІК ҚАЗАҚСТАН MEDISINA АКАДЕМИАСЫ «Оңтүстік Қазақстан медицина академиясы» АҚ	 SKMA -1979-	SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»	38/11-2024 Page 1 of 56
Department of Biology and Biochemistry Department of Pathology and Forensic Medicine Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology Department of Propaedeutics and Internal Medicine Department of Pediatrics-1			
Working studying program of the discipline " Blood and lymph in pathology " (Syllabus) Educational program 6B10115 "Medicine"			

Syllabus

Department of Biology and Biochemistry
Department of Pathology and Forensic Medicine
Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology
Department of Propaedeutics and Internal Medicine
Department of Pediatrics-1

Working curriculum of the discipline "Blood and lymph in pathology"
Educational program 6B 10115 "Medicine"

1. General information about the discipline			
1.1	Discipline code: BLP 3303	1.6	Academic year: 2024-2025
1.2	Course title: Blood and lymph in pathology	1.7	Year: 3
1.3	Prerequisites: General pathology, blood and lymph in pathology in norm	1.8	Semester : 6
1.4	Postrequisites: Diseases of blood and lymph systems	1.9	Number of credits (ECTS): 5 / 150
1.5	Cycle: BD	1.10	Component : IK
2. Description of the discipline			
<p>Formation of basic knowledge of semiotics, syndromology, methods of physical examination and basic research of laboratory parameters, issues of etiology, pathogenesis, morphogenesis, biological characteristics of microorganisms of common pathological processes of the blood and lymph system, acquisition of skills in selection of research methods of diagnostics and drugs for treatment of the most common diseases in adults and children.</p>			
3. Summative Assessment Form			
3.1	• MCQ Testing	3.5	Coursework
3.2	Writing	3.6	Essay
3.3	Oral	3.7	Project
3.4	• OSPE/OSCE or practical skills assessment	3.8	Other (specify)
4. Objectives of the discipline			
<p>Formation of a holistic understanding of the pathology of the blood and lymph systems based on symptoms and syndromes, as well as methods of their study; ensuring the achievement of the final learning outcomes based on the joint study of the pathology of the genitourinary system in the propaedeutics of internal and childhood diseases with basic disciplines. Formation of clinical thinking skills based on knowledge of pathophysiological mechanisms of the course, pathological changes, complications and results of diseases, methods of physical and clinical laboratory examination and choice of drugs in adults and children with the main clinical syndromes in pathology of the blood and lymph systems.</p>			
5. Final learning outcomes (LO of the discipline)			

LO1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the blood and lymph systems.	
LO2	Proficient in methods of conducting questioning and physical examination of adults and children, uses clinical thinking in collecting information when drawing up an examination plan; outlines the scope of basic and additional studies to clarify the syndrome of damage in pathology of the blood and lymph systems .	
LO3	Uses clinical judgment in gathering information when interpreting morphological, laboratory and instrumental research methods for patients with pathology of the blood and lymph systems, formulates syndromic diagnosis, fills medical records.	
LO4	Communicates information, ideas, problems and solutions to patients and their family members, and is proficient in ethical and deontological practices when communicating with patients, their relatives and colleagues.	
LO5	Determines pathological processes at the organ and cellular levels, interprets data on the pathophysiology and morphology of diseases taking into account the clinical data of patients, makes conclusions, explains the patterns of development of complications and outcomes of pathology of the blood and lymph system, evaluates the results of experimental studies.	
LO6	Selects medications in accordance with the diagnosis, writes prescriptions, determines the dosage mode, recognizes adverse effects of medications, predicts the development of side effects and interactions of medications used in pathology of the blood and lymph systems.	
LO 7	Analyzes professional literature when working with scientific articles, completes a project, demonstrates a desire for continuous improvement of their activities.	
5.1	Discipline LO	Learning outcomes of the EP, which are associated with the discipline LO
	LO 1 LO 2	LO 1 Applies fundamental knowledge in the field of biomedical, clinical, epidemiological and social-behavioral sciences in practice.
	LO 3 LO 4	LO 2 Provides patient-centered care in the biomedical, clinical, epidemiological and social-behavioral sciences aimed at the diagnosis, treatment and prevention of the most common diseases.
	LO 5 LO 6 LO 7	LO 6 Conducts admission, diagnostics, treatment, dynamic observation and rehabilitation of pediatric and adult patients, including pregnant women, based on the principles of evidence-based medicine.
6.	Detailed information about the discipline	
6.1	<ul style="list-style-type: none"> • Location of the Department of Biology and Biochemistry : Shymkent , Al-Farabi sq. , 1, main academic building of SKMA, 4th floor . • Location of the Department of Pathology and Forensic Medicine: Shymkent, Al-Farabi sq., 3, academic building No. 2 SKMA , 4th floor, classroom No.404a,b, No.406, No.408, No.409, No.411a, b; e-mail: Patan.gisto@mail.ru • Location of the Department of Pharmacology, Pharmacotherapy and Clinic of Pharmacology: Shymkent, Al-Farabi sq., 1, main building of SKMA, 4th floor , room No.419,No.421,No.425,No.429,No.431,No.434,No.417, lecture hall No. 4 ; tel . 40-82-06(ATS), 227 (external). 	

- Location of the Department of Internal Medicine: Shymkent, Clinic "ParkHealth", st. Kurmanbekova, 2; tel: 8 701 738 6114, e-mail: propedevtica_vb@mail.ru
- Location of the Department of Pediatrics-1: Shymkent, Argynbekov St., 125, Regional Children's Hospital; e-mail: ped.rez@mail.ru

6.2	Number of hours	L e c t u r e s	Practical. les.	Laboratory classes	SIWT
		10	40		15

6.3 Study plan for the discipline

Days		1	2	3	4	5	6	7	8	9	10	11	12	Time, h
Form of the lesson														
Pathological Physiology (1 cr.)	Lec	1				1								2
	Practical	3				3						2		8
	SIWT	1				1						1		3
	SIW	6				6						2		14+3(IC)= 17
Pathological anatomy (1 cr.)	Lec				1					1				2
	Practical				2		3			1		2		8
	SIWT				1					1		1		3
	SIW				2					6		6		14+3(IC)= 17
Pharmacology (1 cr.)	Lec			1						1				2
	Practical			2						3			3	8
	SIWT			1						1			1	3
	SIW			6						6			2	14+3(IC)= 17
Propaedeutics of internal Diseases (1 cr.)	Lec		1								1			2
	Practical		3						2		3			8
	SIWT		1						1		1			3
	SIW		5						5		4			14+3(IC)= 17
Propaedeutics of children diseases (0.5 cr.)	Lec						1							1
	Practical			2			1						1	4
	SIWT						1						1	2

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6	Beisebaeva Lyazzat Mukhtarovna	Senior Teacher	lyzz atb 70 @li st.r u	"Organization of clinical diagnostic laboratory service in modern conditions in the Republic of Kazakhstan"	Author of 3 scientific publications
Department of Pathology and Forensic Medicine					
1	Sadykova Alia Shamilevna	Head of the Department of Pathology and forensic medicine, doctor of medical sciences, acting professor	aliy a.sa dyk ova .66 @ mai l.ru	The topic of the scientific direction "Pathology of the immune system, pathological anatomy of tumors"	Author of 84 scientific publications, 5 textbooks, 1 patent for invention, 1 monograph
2	Bisimbaeva Saule Babatovna	Candidate of medical sciences, acting docent	Bisi mb aev a@i nbo x.ru	The topic of the scientific direction is "Hygienic justification of optimal treatment of pulmonary tuberculosis"	Author of 40 scientific publications, 2 provisional patents , 1 patent, 1 monograph and 2 acts of implementation of the results of scientific research work
3	Dosybaev Bakhytzh an Krykbaevich	Candidate of medical sciences, acting docent	Kri k85 @ mai l.ru	The topic of the scientific direction "Prognostic assessment of the health of workers in cement production"	Author of 14 scientific publications
4	Kulbalieva Zhannat Zhaksyslykovna	PhD, Candidate of medical sciences, acting docent	zha nn_ 7@ mai l.ru	The topic of the scientific direction is "The influence of lead on the oxidative metabolism of lipids and proteins in the blood and its correction with biofenikol"	Author of 4 scientific publications, 1 teaching aid, 2 acts of implementation of the results of scientific research work and 3 acts of

					implementation of the results of educational and methodological work
5	Kerimov Rassim Azatovich	Master of Medicine, senior teacher	kir- 200 4@ list. ru	The topic of the scientific research "Diagnostics and prevention of colorectal cancer "	Author of 20 scientific publications
6	Abildina Kalamkas Berzhanovna	Master, assistant	msh as1 972 @ mai l.ru	The topic of the scientific direction is "Morphogenesis of atherosclerosis of the aorta and renal arteries in residents of Shymkent city"	Author of 19 scientific publications 1teaching aid
7	Ignatieva Anastasia Sergeevna	Senior teacher	zhel onk ina _88 @ mai l.ru	-	-
8	Berdaliev Gulmira Bakhytkyzy	Senior teacher	mir a- 350 5 @ mai l.ru	-	Author of 6 scientific publications
9	Kurymbaeva Ainur Rashidkyzy	Assistant	Sm p_z oj @ mai l.ru	-	-
10	Seydakbar Aisana Usenovna	Teacher	ase yda kba r@	-	Author of 2 scientific publications

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11	Duysembieva Zhazira Mereykyzy	Teacher	zha zira 050 8 @ mai l.ru	Theme of the scientific direction "Scientific foundations of the formation of a healthy lifestyle among residents of the South Kazakhstan region"	Author of 3 scientific publications
Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology					
1	Ibragimova Aigul Gaffarovna	Candidate of pharmacological sciences, acting docent	ayg ul_i br @ mai l.ru	"Problems of rational use of medicines: effective and safe pharmacotherapy, pharmacoepidemiological, pharmacoeconomic, pharmacogenetic aspects. Personalized therapy. Development of herbal preparations and effective herbal therapy of various diseases"	Author of more than 20 scientific articles, textbooks, and methodological recommendations
2	Abuova Gulnara Turganbaevna	Candidate of biological sciences, acting docent	abu ova @ mai l.ru	"Pharmacoeconomic approaches to optimizing the treatment of acute respiratory infections in outpatient settings"	Author of more than 20 scientific papers, textbooks, and methodological recommendations
3	Korganbaeva Zaure Sarybaevna	Candidate of biological sciences, acting docent	kor gan bae va0 55 @ mai l.ru	"Substantiation of the protective effect of phytopreparations on blood and liver damage during lead poisoning"	Author of more than 20 scientific works, teaching aids, methodological recommendations
4	Syrmanova Nurgul Rakhmanovna	Master of Medical Sciences, Senior teacher	n_r akc hm an @ mai l.ru	"Study of the specific activities of extracts isolated from plants of the genus Cassia"	Author of more than 20 scientific papers, textbooks, and methodological recommendations

5	Dustanova Zhamila Talibbaevna	Senior teacher	jam 11. 76. 76 @ mai l.ru	“Manufacturing of tablet dosage form of hydrophobized dry licorice extract”	Author of 5 scientific articles
6	Muyutova Makhsuda Nasyrovna	Master of Medical Sciences, senior teacher	ma hsu _m ed @ mai l.ru	Clinical pharmacology in general medicine and neurology	Author of 3 scientific articles
Department of Propaedeutics and Internal Medicine					
1	Bekmurzaeva Elmira Kuanyshevna	Head of Department Doctor of Medical Sciences, professor	elm ira- bek @ mai l.ru	Scientific work: "Clinical and hygienic features of the formation of diseases of the digestive organs in workers of a modern oil refining production (on the example of JSC "SHNOS")"	Author of over 260 scientific and methodological publications, 2 textbooks, 8 teaching aids. Certificate of therapist, gastroenterologist and rheumatologist of the highest category. 2005 - Doctor of Medical Sciences, approved by the Higher Attestation Commission of the Republic of Kazakhstan (diploma FK No. 0000379), (14.00.50 - "Occupational Medicine"), professor in the specialty "Medicine" (diploma PR No.

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0000446), Higher Attestation Commission of the Republic of Kazakhstan. Under the supervision of Bekmurzaeva E.K., 3 candidates of medical sciences were prepared, who received approval from the Committee for Control and Certification in the Sphere of Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan. Awarded for high scientific achievements with medals, diplomas and certificates: Robert Koch 2012, Peterkoff 2014, Albert Schweitzer 2015, "Excellent Healthcare Worker of the Republic of Kazakhstan", Republican grant of the Ministry of Education and Science of the Republic of Kazakhstan "Best University Teacher - 2014"

2	Sadykova Gulzhan Saparovna	Candidate of medical sciences, acting docent	gul zha n21 71 @ mai l.ru	Scientific work: “Hepatoprotective effect of pannuvladine in toxic hepatitis”	Author of more than 35 scientific and scientific-methodical publications, 8 teaching aids, certificate of the highest category therapist. Certificate of a specialist in general medicine
3	Baidullaev Bahram Muzaffarovich	Assistant	bb m2 055 @ mai l.ru	-	Author of over 65 scientific and scientific-methodical publications, 6 textbooks. Certificate of the highest category therapist
4	Akhaeva Laura Zhaksylykovna	Assistant	Lau ra1 990 a00 @ mai l.ru	-	Certificate of specialist general practitioner. Author of 25 scientific publications
5	Toktarova Gulnaz Abdimalikovna	Assistant	Tok tar_ 858 5 @ mai l.ru	-	Certificate of specialist therapist, functional diagnostics, cardiologist. Author of 8 scientific publications and co- author of 1 educational and methodological manual
6	Batkhieva Madina Bekenovna	Assistant	Ma din _m adi na	-	Co-author of 1 teaching aid. International APTIS certificate. Therapist certificate

			@ mai l.ru		
7	Tazhibaeva Azhar Bakytbekyzy	Assistant	avri l.ta b@ mai l.ru	-	Certificate of General Practitioner Author of 29 scientific publications
Department of Pediatrics-1					
1	Kemelbekov Kanatzhan Sauhanbekovich	PhD	<u>Kan</u> <u>at-</u> <u>270</u> <u>184</u> <u>@</u> <u>mai</u> <u>l.ru</u>	Pediatrics, Balalar surgery	Author of more than 80 scientific publications and 3 textbooks
2	<u>Mustafina</u> <u>Kenzhegul</u> <u>Akhmetovna</u>	docent	say at. mk a@ mai l.ru	Pediatrics	Author of more than 70 scientific publications and 3 textbooks
3	Baimakhanova Bakhtygul Bimendievna	Candidate of medical sciences, acting docent	Bak htig ul0 59 @ mai l.ru	Pediatrics	Author of more than 40 scientific publications and 1 manual
4	Absadyk Aidana Erseitkyzy	assistant	aida na.a bsa dyk @ mai l.ru	Pediatrics	Author of scientific publications -5
5	Baltabaeva Botakoz Serikyzy	assistant	Bot i.asi k@ mai l.ru	Pediatrics	Author of scientific publications -5

8. Thematic plan						
Day 1	Form of classes	Summary	LO of the module	Number of hours	Forms/methods/ learning technologies	Forms/evaluation methods
	Pathological Physiology Lecture 1 Erythrocyte pathology	Anemia, classification, etiopathogenesis, manifestations. Posthemorrhagic, hemolytic and dyserythropoietic anemia, characteristics, changes in the hemogram. Erythrocytosis, concept, types, causes, mechanisms of development, manifestations, changes in the hemogram. Pathological forms of erythrocytes. Clinical significance	LO1	1	Overview lecture	Quick Poll Feedback
	Pathological Physiology Practical lesson 1 Erythrocyte pathology	Anemia, classification, etiopathogenesis, manifestations. Posthemorrhagic, hemolytic and dyserythropoietic anemia, characteristics, changes in the hemogram. Erythrocytosis, concept, types, causes, mechanisms of development, manifestations, changes in the hemogram. Pathological forms of erythrocytes. Clinical significance	LO3 LO5	3	Work in small groups, discussion of the topic, case-study	Checklist
	Pathological Physiology SIWT/SIW 1 Violations of the physical and chemical properties of blood	Blood volume disorders, hyper- and hypovolemia. Changes in blood viscosity and osmotic pressure, erythrocyte sedimentation rate and resistance, hemoglobin composition. Clinical significance	LO3 LO5	1/6	Case-study	Checklist

	Biochemistry Practical lesson 1					
Day 2	Propaedeutics of internal diseases. Lecture 1 Methods of investigation of patients with pathology of the hematopoietic system. Diagnostic value.	Questioning, complaints from patients with pathology of the hematopoietic system. Data from physical methods of hematopoietic system examination. General examination: palpation and percussion of the spleen: a technique. Palpation of lymph nodes .	LO2	1	Overview lecture	Quick Poll Feedback
	Propaedeutics of internal diseases . Practical lesson 1 Methods of investigation of patients with pathology of the hematopoietic system. Diagnostic value.	Questioning, complaints from patients with pathology of the hematopoietic system. Data from physical methods of hematopoietic system examination. General examination: palpation and percussion of the spleen: a technique. Palpation of lymph nodes .	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Oral interview checklist , assessment of practical skills
	Propaedeutics of internal diseases . SIWT/SIW 1 Methods of laboratory and instrumental studies of patients with pathology of the hematopoietic system. Diagnostic value	Methods of clinical examination of patients with pathology of hematopoiesis organs. The scheme of hematopoiesis. Peripheral blood counts are normal. The main methods of instrumental examination are to identify a number of diagnostic signs that serve as criteria for the pathological process of the hematopoietic system.	LO2 LO3	1/5	Presentation protection	Presentation Evaluation Checklist

Day 3	Pharmacology Lecture 1					
	Pharmacology Practical lesson 1					
	Pharmacology SIWT/SIW 1					
	Propaedeutics of children diseases . Practical lesson 1 Clinical and laboratory diagnostics of anemic and hemorrhagic syndrome in children.	Methods of clinical examination of sick children of different age groups with pathology of hematopoiesis. Scheme of hematopoiesis. Peripheral blood counts in children of different age groups are normal. Complaints made by patients with diseases of the blood system. Palpation of lymph nodes Percussion of the spleen in children of different age groups.	LO2 LO3 LO4	2	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Oral interview w checklist , assessment of practical skills
Day 4	Pathological anatomy Lecture 1 Anemia	Anemias associated with deficiency of macronutrients and vitamins, bone marrow pathology, dyserythropoietic anemia (suppression of erythropoiesis, decreased iron utilization), acute and chronic posthemorrhagic anemia. Hemolytic anemias (intra- and extracellular	LO1	1	Overview lecture	Quick Poll Feedback

	hemolysis): spherocytosis, elliptocytosis, pathology of erythrocyte enzymes, hemoglobin defects; immune, non-immune, toxic anemia. Etiology, pathogenesis, morphogenesis, pathological anatomy, complications and causes of death. Clinical significance				
Pathological anatomy Practical lesson 1 Anemia	Anemias associated with deficiency of macronutrients and vitamins, bone marrow pathology, dyserythropoietic anemia (suppression of erythropoiesis, decreased iron utilization), acute and chronic posthemorrhagic anemia.	LO3 LO5	2	Discussion of the topic, description of macro- and micropreparations with a conclusion, case study	Checklist
Pathological anatomy SIWT/SIW 1	Hemolytic anemias (intra- and extracellular hemolysis): spherocytosis, elliptocytosis, pathology of erythrocyte enzymes, hemoglobin defects; immune (isoimmune, non-immune, microangiopathic, autoimmune), toxic anemia. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	LO3 LO5	1/2	Case-stud	Checklist
Biochemistry Practical lesson 2					

	Biochemistry SIWT/SIW 1					
Day 5	Pathological Physiology Lecture 2 Leukocyte pathology	Leukocytosis, concept, types, causes, development mechanisms, manifestations. Changes in the leukocyte formula. Leukopenia, concept, types, pathogenesis. Pathological forms of leukocytes. Leukemia, concept, etiopathogenesis, classification, main clinical syndromes, changes in the hemogram and myelogram. Leukemoid reactions, concept. Clinical significance	LO1	1	Overview lecture	Quick Poll Feedback
	Pathological Physiology Practical lesson 2 Leukocyte pathology	Leukocytosis, concept, types, causes, development mechanisms, manifestations. Changes in the leukocyte formula. Leukopenia, concept, types, pathogenesis. Pathological forms of leukocytes. Leukemia, concept, etiopathogenesis, classification, main clinical syndromes, changes in the hemogram and myelogram. Leukemoid reactions, concept. Clinical significance	LO3 LO5	3	Work in small groups, discussion of the topic, case-study	Checklist
	Pathological Physiology SIWT/SIW 2 Lymph pathology	Disorders of lymph formation, lymph circulation, lymph coagulation, lymphostasis. Mechanical, dynamic and	LO3 LO5	1/4	Case-study	Checklist

		resorption lymphatic insufficiency, etiopathogenesis, manifestations. Clinical significance				
Day 6	Pathological Anatomy Practical lesson 2 Leukemia	Acute and chronic leukemia. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	LO3 LO5	3	Discussion of the topic, description of macro- and micropreparations with a conclusion, case study	Checklist
	Propaedeutics of children diseases. Lecture 1 Features of the manifestations of the main syndromes in pathologies of the hematopoietic system in children.	Clinical and laboratory symptoms of anemic and hemorrhagic syndrome, myelo - and lymphoproliferative syndromes in children.	LO2	1	Overview lecture	Quick Poll Feedback
	Propaedeutics of children diseases. Practical lesson 2 Diagnosis of the main syndromes in pathologies of the hematopoietic system in children	Principles of diagnosis and laboratory characteristics of myelo- and lymphoproliferative syndromes in children.	LO2 LO3 LO4	1	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Oral interview checklist, assessment of practical skills

	<p>Propaedeutics of children diseases. SIWT/SIW 1 Laboratory – instrumental characteristics of hemorrhagic and ischemic syndrome in children.</p>	<p>Laboratory and instrumental characteristics of hemorrhagic and anemia syndrome in children. CBC indicators and coagulograms.</p> <p>Topics of lectures, practical exercises, independent work completed during 1-6 days of study</p>	<p>LO2 LO3</p>	<p>1/4</p>	<p>Presentation protection</p>	<p>Presenta tion evaluati on Checklis t</p>
Day 7	<p>Propaedeutics of internal diseases . Practical lesson 2 The leading clinical syndromes (anemia) in hematology.</p>	<p>Predisposing factors and causes leading to the development of anemia syndrome. Questioning, complaints, anamnestic features, examination and objective data of the patient. Laboratory and instrumental research methods in the leading clinical syndromes of diseases of the hematopoietic system.</p>	<p>LO2 LO3 LO4</p>	<p>2</p>	<p>Discussion of the practical lesson topic, solving situational problems</p>	<p>Checklis t of oral interview and situation al tasks</p>
	<p>Propaedeutics of internal diseases . SIWT/SIW 2 Laboratory and instrumental research methods in the leading clinical syndromes of diseases of the hematopoietic system.</p>	<p>Laboratory and instrumental research methods in the leading clinical syndromes (anemia, hemorrhagic and thrombocytopenic) diseases of the hematopoietic system.</p>	<p>LO2 LO3</p>	<p>1/5</p>	<p>Presentation protection</p>	<p>Presenta tion Evaluati on Checklis t</p>

	Biochemistry Lecture 1					
	Biochemistry Practical lesson 3					
Day 8	Pharmacology Lecture 2					
	Pharmacology Practical lesson 2					
	Pharmacology SIWT/SIW 2					
Day 9	Pathological anatomy Lecture 2 Leukemia	Acute and chronic leukemia. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	LO1	1	Overview lecture	Quick Poll Feedback
	Pathological anatomy Practical lesson 3 Lymphomas	Lymphomas. Classification. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	LO3 LO5	1	Discussion of the topic, description of macro- and micropreparations with a conclusion, case study	Checklist
	Pathological anatomy SIWT/SIW 2 Anemia	Congenital and acquired hypo- and aplastic anemia. Etiology, pathogenesis, pathological anatomy,	LO3 LO5	1\6	Case-study	Checklist

		complications, causes of death. Clinical significance				
	Biochemistry Practical lesson 4					
Day 10	Propaedeutics of internal diseases. Lecture 2 The leading clinical syndromes (anemic, hemorrhagic and thrombocytopenic) in hematology.	Predisposing factors and causes leading to the development of anemia, hemorrhagic and thrombocytopenic syndromes. Questioning, complaints, anamnestic features, examination and objective data of the patient. Laboratory and instrumental research methods in the leading clinical syndromes of diseases of the hematopoietic system.	LO2	1	Overview lecture	Quick Poll Feedback
	Propaedeutics of internal diseases . Practical lesson 3 The leading clinical syndromes (hemorrhagic and thrombocytopenic) in hematology. Diagnostic value.	Predisposing factors and causes leading to the development of hemorrhagic and thrombocytopenic syndromes. Questioning, complaints, anamnestic features, examination and objective data of the patient. Laboratory and instrumental research methods in the leading clinical syndromes of diseases of the hematopoietic system.	LO2 LO3 LO4	3	Discussion of the practical lesson topic, solving situational problems	Checklist of oral interview and situational tasks

	Propaedeutics of internal diseases . SIWT/SIW 3 Methods of investigation of patients with pathology of the hematopoietic system.	General examination: palpation and percussion of the spleen: a technique. Palpation of lymph nodes .	LO2 LO3	1/4	Acquisition and implementation of practical skills	Practical skills assessment checklist
Day 11	Pathological Physiology Practical lesson 3 Pathology of hemostasis	Typical forms of hemostasis pathology. Hemorrhagic syndromes, concept, types. Vasopathies, platelet pathology, coagulopathy, etiopathogenesis, manifestations. Thrombophilia, concept, types, causes of development. Clinical significance.	LO3 LO5	2	Work in small groups, discussion of the topic, case-study	Checklist
	Pathological Physiology SIWT/SIW 3 DIC syndrome	Disseminated intravascular coagulation syndrome, concept, causes, development mechanisms, stages, manifestations, outcomes. Clinical significance.	LO3 LO5	1/2	Case-study	Checklist
	Pathological anatomy Practical lesson 4 Pathology of hemostasis	Thrombocytopenia and thrombocytopeny. Hemorrhagic syndrome. Etiology, pathogenesis, pathological anatomy, complications, causes of death. Clinical significance	LO3 LO5	2	Discussion of the topic, description of macro- and micropreparations with a conclusion, case-study	Checklist
	Pathological anatomy SIWT/SIW 3 Pathology of hemostasis	Pathological anatomy of DIC syndrome. Etiology, pathogenesis, pathological anatomy, complications,	LO3 LO5	1\6	Case-study	Checklist

		causes of death. Clinical significance				
Day 12	Pharmacology Practical lesson 3					
	Pharmacology SIWT/SIW 3					
	Propaedeutics of children diseases. Practical lesson 3 Clinical and laboratory characteristics of myelo- and lymphoproliferative syndrome in children.	Principles of questioning, anamnesis collection, and an objective method of examining patients with myelo- and lymphoproliferative syndromes. Principles of diagnosis and laboratory characteristics of myelo- and lymphoproliferative syndromes in children.	LO2 LO3 LO4	1	Discussion of the practical lesson topic, solving situational problems, learning and performing practical skills	Oral interview w checklist, assessment of practical skills
	Propaedeutics of children diseases. SIWT/SIW 2 Lymphoid system in children. Morphological and functional immaturity, their compensation factors, research methods.	Features of the lymphoid system in children of different age groups. Lymph node enlargement syndrome. Methods for determining lymphadenopathy. Topics of lectures, practical exercises, independent work completed during 7-12 days of study	LO2 LO3	1/3	Defending presentation	Presentation evaluation on checklist

	Lymph node enlargement syndrome.					
8.1	Interim assessment hours					15
9.	Teaching methods					
9.1	Lectures	Overview lectures				
9.2	Practical classes	Work in small groups, discussion of the topic, oral questioning (solving situational problems), writing out prescriptions, case studies, description of macro- and micropreparations with a conclusion, implementation of practical skills, interpretation of clinical laboratory test results, discussion of the topic,				
9.3	SIWT/SIW	Case study, analysis of scientific articles, project implementation Presentation defense and practical skills implementation, discussion of the topic, solutions to test cases				
9.4	Border control	Integrated monitoring of educational achievements using control educational cases , testing				
10.	Evaluation criteria					
10.1	Criteria for assessing the learning outcomes of the discipline					
LO	Name of learning outcomes	Unsatisfactory	Satisfactory	Good	Excellent	
LO1	Demonstrates knowledge and understanding of the basics of semiotics and syndromology, etiology, pathogenesis and morphogenesis of pathology of the urogenital system	1. Does not know the basics of semiotics and syndromology, does not identify symptoms and syndromes. 2. Cannot explain the etiology , pathogenesis and morphogenesis of pathological changes in the urogenital system	1. Does not have a basic understanding of semiotics and syndromology , makes gross mistakes in determining symptoms and syndromes in pathologies of the urogenital system. 2. Makes mistakes when explaining	1. Has a basic understanding of semiotics and syndromology, and can identify symptoms and syndromes. 2. Explains the etiology, pathogenesis and morphogenesis of pathological changes in the urogenital system, but allows for fundamental inaccuracies	1. Fluently masters the basics of semiotics and syndromology, independently identifies symptoms and syndromes. 2. Freely explains the etiology , pathogenesis and morphogenesis of pathological changes in the	

			etiology, pathogenesis and morphogenesis of pathological changes in the urogenital system		urogenital system
LO2	Has knowledge of methods of conducting questioning, physical examination of adults and children, uses clinical thinking in collecting information when drawing up an examination plan; outlines the scope of basic and additional studies to clarify the syndrome of damage in pathology of the urogenital system	Does not know the basic physiological processes in the kidneys and urinary tract, does not understand the regulation of urine formation and urine excretion. Unable to explain the mechanisms filtration, reabsorption and secretion.	Makes mistakes when describing the basic physiological processes in the kidneys and urinary tract, explaining the regulation of excretory functions of the body. Able to explain with mistakes the mechanisms urine formation.	Describes the basic physiological processes in the kidneys and urinary tract, understands the regulation of excretory functions of the body. Is able to fully explain the mechanisms of urine formation.	Demonstrates the basic physiological processes in kidneys and urinary tract, has a deep understanding of the regulation of excretory functions of the body. Is able to draw the mechanisms of urine formation.
LO3	Uses clinical thinking in collecting information when interpreting the	Does not know the main metabolic pathways that affect the function of the urogenital system . Doesn't understand biochemical processes	Does not fully understand the main metabolic pathways that affect the	Explains the main metabolic pathways that affect the function of the urogenital system. Has a good	Possesses clinical thinking skills, applies knowledge in collecting information

	results of morphological, laboratory and instrumental methods of examining patients with pathology of the genitourinary system, formulates a syndromic diagnosis , fills out a medical history		function of the urogenital system. Poor understanding of biochemical processes associated with energy metabolism	understanding and knowledge of the biochemical processes associated with energy metabolism.	when interpreting the results of morphological, laboratory and instrumental methods of examining patients with pathology of the urogenital system, formulates a syndromic diagnosis, fills out a medical history. Effectively solves situational tasks.
LO4	Communicates information, ideas, problems and solutions to patients and their family members, and is proficient in ethical and deontological practices when interacting with patients, their relatives and colleagues	Does not know how to apply knowledge of the urogenital system in a clinical context, has not acquired the skills to collect a clinical history and perform a physical examination of patients with diseases of the urogenital system to provide first aid, does not able to interpret the results of laboratory and instrumental studies	Does not fully know how to apply knowledge about the urogenital system in a clinical context, collects clinical anamnesis and physical examination of patients with diseases of the genitourinary system to provide first aid with errors, poorly	Lists information about the genitourinary system in a clinical context, collects a clinical history and physical examination of patients with diseases of the genitourinary system with the provision of first aid, is well oriented in the interpretation of the results of laboratory and instrumental studies	Freely demonstrates knowledge of the urogenital system in a clinical context, collects clinical history and physical examination of patients with diseases of the genitourinary system with the provision of first aid, has excellent orientation in the interpretation of the results of laboratory and instrumental studies

			oriented in interpreting the results of laboratory and instrumental studies		
LO5	Determines pathological processes at the organ and cellular levels, interprets data on the pathophysiology and morphology of diseases taking into account the clinical data of patients, makes conclusions, explains the patterns of development of complications and outcomes of pathology of the genitourinary system , evaluates the results of experimental studies	<ol style="list-style-type: none"> 1. Is unable to identify pathological processes at the organ and cellular levels, makes gross mistakes. 2. Cannot interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients . 3. Makes erroneous conclusions, has poor orientation and does not explain the patterns of development of complications and outcomes of pathology of the urogenital system. 4. Is unable to evaluate the results of experimental studies and makes fundamental mistakes. 5. Incapable of solving situational tasks. 	<ol style="list-style-type: none"> 1. Determines pathological processes at the organ and cellular levels, but makes gross errors. 2. Cannot independently interpret data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients . 3. Makes erroneous conclusions, finds it difficult to independently explain the patterns of development of complications and outcomes of pathology of the urogenital system. 	<ol style="list-style-type: none"> 1. Determines pathological processes at the organ and cellular levels . 2. Interprets data on the etiology, pathophysiology and morphology of diseases, taking into account the clinical data of patients . 3. Draws conclusions, explains the patterns of development of complications and outcomes of pathology of the urogenital system . 4. Appreciates the results of experimental studies, but allows for minor inaccuracies. 5. Solves situational tasks. 	<ol style="list-style-type: none"> 1. Independently identifies pathological processes at the organ and cellular levels . 2. Independently interprets data on the etiology, pathophysiology and morphology of diseases taking into account the clinical data of patients. 3. Draws conclusions, explains the patterns of development of complications and outcomes of pathology of the genitourinary system . 4. Evaluates the results of experimental research. 5. Effectively solves situational tasks.

			<p>4. Finds it difficult to evaluate the results of experimental studies and makes fundamental inaccuracies.</p> <p>5. Solves situational tasks, but makes fundamental mistakes</p>		
LO6	<p>Selects medications in accordance with the diagnosis, writes prescriptions, determines the dosage mode, recognizes adverse effects of medications, predicts the development of side effects and interactions of medications used in pathology of the urogenital system</p>	<p>1. It defines a general pharmacological group of drugs.</p> <p>2. Write a recipe with errors.</p>	<p>1. Selects a pharmacological group of drugs by organs and systems.</p> <p>2. Write a recipe using reference literature/sources.</p>	<p>1. Selects medications for the treatment and prevention of the most common diseases.</p> <p>2. Writes out a prescription for the specified medication without errors .</p> <p>3. Calculates the dose of the drug</p>	<p>1. Selects drugs from various pharmacological groups in accordance with indications for use, contraindications and side effects</p> <p>2. Write a recipe for medications in the most appropriate dosage form depending on age, gender, and functional characteristics.</p> <p>3. Calculates doses using various methods and determines the frequency and duration of use of the drug.</p>
LO7	<p>Analyzes professional</p>	<p>1. Does not have research skills.</p>	<p>1 . Cannot analyze the</p>	<p>1. Analyzes scientific articles on</p>	<p>1. Analyzes scientific</p>

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literature when working with scientific articles, carries out a project, demonstrates a desire for continuous improvement of their activities	2. Does not have a desire for continuous self-education and development	topics of classes. 2. Participates in the implementation of the project. 3. Violates deadlines for completing tasks.	the topics of the lesson. 2. Participates in the implementation of the project. 3. Completes assignments on time.	articles on the topics of the lesson. 2. Uses international databases at work 3. Successfully defends the completed project. 4. Demonstrates motivation for independent work, creative approach to completing tasks
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10.2 Methods and criteria for evaluation

Checklist for assessing a lesson

Form of control	Grade	Evaluation criteria
Performing practical skills	Excellent corresponds to points 95-100 90-94	<ul style="list-style-type: none"> - The student is well-versed in questioning and examining patients. Correctly and accurately selects questions when collecting anamnesis, accurately analyzes primary and secondary complaints, and is well-versed in the collected anamnesis of life and disease. - Accurately performs a basic physical examination: general examination, palpation, percussion, auscultation, measurement of blood pressure, determination of pulse characteristics, respiratory rate, etc.) in children and adolescents. - Conducts correct linking of objective physical examination data (palpation, auscultation, percussion), correctly interprets laboratory and instrumental examination data. - Able to evaluate pathophysiological patterns of research results. Finds and compares the connection between the main symptoms and syndromes. - Substantiates and establishes a presumptive syndrome-based diagnosis. - Used additional literature when preparing for the lesson. - Systematizes the material on the given topic.

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		- Effectively communicates in medical practice, objectively conveys relevant information, knows and uses the norms of ethics and deontology when performing the skill;
	Good corresponds to points 85-89 80-84 75-79 70-74	- The student differentiates between primary and secondary complaints well, is well oriented in the collected anamnesis of life and disease. Is well oriented when questioning and examining patients, but allows minor inaccuracies or fundamental errors, corrected by the student himself. - Accurately performs a basic physical examination: general examination, palpation, percussion, auscultation, blood pressure measurement, determination of pulse characteristics, respiratory rate, etc. of children and adolescents. Incapable of correctly interpreting examination results. Does not accurately convey appropriate information; - Links data from objective physical examination (palpation, auscultation, percussion), and incorrectly interprets data from laboratory and instrumental studies. - Has errors in assessing pathophysiological patterns based on research results. Finds and compares the relationship between the main symptoms and syndromes. Establishes a presumptive syndrome-based diagnosis without substantiating the data
	Satisfactory corresponds to points 65-69 60-64 50-54	- The student is able to navigate when questioning and examining patients, <u>differentiates between</u> primary and secondary complaints with errors, and is poorly <u>oriented</u> in the collected anamnesis of life and illness. - Makes mistakes when conducting a physical examination (palpation, percussion, auscultation and general examination) and demonstrates incomplete knowledge of the material on the given topic, while making fundamental mistakes. - <u>Links</u> data from objective physical examination (palpation, auscultation, percussion), correctly <u>interprets</u> data from laboratory and instrumental studies. Has errors in assessing examination results. - Is unable to <u>evaluate</u> pathophysiological patterns of research results. <u>Is unable to determine</u> the relationships between the main symptoms and syndromes. <u>Establishes</u> a presumptive syndrome-based diagnosis without substantiating the data. - Has a low level of communication skills in medical practice; subjectively conveys appropriate information;
	Unsatisfactory corresponds to points 25-49	- The student has no idea about the main and secondary complaints, and is not <u>oriented</u> in the collected anamnesis of life and illness. - Is unable to carry out practical skills to interpret their results. <u>Cannot determine the relationship of</u> objective physical examination

	Unsatisfactory corresponds to points 0-24	<p>data (palpation, auscultation, percussion), incorrectly <u>interprets laboratory and instrumental examination data</u> .</p> <ul style="list-style-type: none"> - Does not know how to <u>evaluate</u> pathophysiological patterns of research results. <u>Does not find and is not able to compare the relationship between the main symptoms and syndromes</u>. Establishes a presumptive syndrome-based diagnosis without substantiating the data - Does not participate in the work of the group. Is not able to communicate in medical practice; does not convey proper information, does not know and is not able to use the norms of ethics and deontology when performing the skill. When answering the teacher's questions, gross errors, not using specific terminology in answers.
Case study	Excellent corresponds to points 95-100 90-94	<ul style="list-style-type: none"> - solved cases within a certain time; - gave full answers to all questions <p>Demonstrates original thinking when analyzing a situational task. Fully utilizes theoretical knowledge necessary to solve a given task. Demonstrates excellent knowledge of reference biochemical parameters when interpreting the proposed biofluid analysis data. Demonstrates the ability to draw logical conclusions on a situational task, while demonstrating a deep understanding of the necessary educational material.</p>
	Good corresponds to points 85-89 80-84 75-79 70-74	<ul style="list-style-type: none"> - solved cases within a certain time; - gave complete answers to all questions; - made minor mistakes when solving cases <p>Possesses the necessary knowledge to solve this situational task. Allows for minor inaccuracies when discussing this case. Is able to draw correct conclusions on the proposed situational task.</p>
	Satisfactory corresponds to points 65-69 60-64 50-54	<ul style="list-style-type: none"> - solved cases within a certain time; - gave incomplete answers to questions; - made fundamental mistakes when solving cases <p>Allows minor inaccuracies when discussing a given task, has difficulty interpreting analyses proposed in a situational task. Draws conclusions with difficulty</p>
	Unsatisfactory corresponds to points 25-49	<ul style="list-style-type: none"> - solved cases incorrectly or did not solve them at all; - made gross mistakes when solving cases <p>Allows fundamental errors in discussing a situational task. Passive, unable to draw appropriate conclusions.</p>
	Unsatisfactory corresponds to points	

	0-24	
Interpretation of clinical laboratory test results	Excellent corresponds to points 95-100 90-94	- correctly, without any errors, interprets the results of clinical laboratory tests; - made a reasoned conclusion
	Good corresponds to points 85-89 80-84 75-79 70-74	- correctly interprets the results of clinical laboratory tests, making minor errors; - makes a reasoned conclusion
	Satisfactorily corresponds to points 65-69 60-64 50-54	- correctly interprets the results of clinical laboratory studies, having made fundamental mistakes; - makes an unfounded conclusion
	Unsatisfactory corresponds to points 25-49	- incorrectly interprets the results of clinical laboratory tests, making gross errors; - doesn't not draw a conclusion
	Unsatisfactory corresponds to points 0-24	
Description of the macropreparation	Excellent corresponds to points 95-100 90-94	- names the organ correctly and indicated its dimensions, - describes the surface: the condition of the capsule or serous membrane, dimness, shiness, plaque on a surface; - gives a description of the pathological focus: indicates the location, size, shape (if it is an ulcer - the condition of the bottom), color, consistency; -makes the correct pathological conclusion/diagnosis
	Good corresponds to points 85-89 80-84 75-79 70-74	- correctly names the organ, indicated the dimensions, describes the surface: condition of the capsule or serous membrane, dimness, shiness, plaque on a surface; - gives a description of the pathological focus: indicates the location, size, shape (if it is an ulcer – the condition of the bottom), color, consistency;

		-makes the correct pathological conclusion/diagnosis, but during the answer makes minor mistakes and inaccuracies
	Satisfactorily corresponds to points 65-69 60-64 50-54	- correctly names the organ, does not indicate the dimensions, does not fully describe the surface: does not describe the condition of the capsule or serous membrane, dimness, shiness, plaque on a surface; - gives an incomplete description of the pathological focus: does not indicate indicated location, size, shape (if it is an ulcer - condition of the bottom), color, consistency; - makes the correct pathological conclusion/diagnosis, but during the answer makes fundamental mistakes and inaccuracies
	Unsatisfactory corresponds to points 25-49	- correctly names the organ, does not indicate the size, does not describe the surface: does not describe the condition of the capsule or serous membrane, dimness, shiness, plaque on a surface; - gives an incorrect description of the pathological focus: does not indicate indicated location, size, shape (if it is an ulcer - condition of the bottom), color, consistency; - makes the correct pathological conclusion/diagnosis, but during the answer made fundamental mistakes and inaccuracies
	Unsatisfactory corresponds to points 0-24	- incorrectly names the organ, does not indicate the size, does not describe the surface: does not describe the condition of the capsule or serous membrane, dimness, shiness, plaque on a surface; - gives an incorrect description of the pathological focus: does not indicate indicated location, size, shape (if it is an ulcer - condition of the bottom), color, consistency; - makes an incorrect pathological conclusion/diagnosis, makes gross errors during the answer, leaves some questions unanswered
Description of the microslide	Excellent corresponds to points 95-100 90-94	-correctly names the organ or tissue, correctly characterizes pathological changes: localization, made a description, named the color; -makes the correct pathological conclusion/diagnosis
	Good corresponds to points 85-89 80-84 75-79 70-74	-correctly names the organ or tissue, correctly characterizes pathological changes: localization, makes a description, named the color; -makes the correct pathological conclusion/diagnosis, but during the answer makes minor mistakes and inaccuracies
	Satisfactorily corresponds to points 65-69	- correctly names the organ or tissue, incorrectly characterizes the pathological changes: localization, made a description, incorrectly named the color;

	60-64 50-54	- makes the correct pathological conclusion/diagnosis, but during the answer makes fundamental mistakes and inaccuracies
	Unsatisfactory corresponds to points 25-49	- correctly names an organ or tissue, incorrectly characterizes pathological changes: localization, made a description, incorrectly named the color; -makes the correct pathological conclusion/diagnosis, makes gross errors during the answer
	Unsatisfactory corresponds to points 0-24	- incorrectly names an organ or tissue, incorrectly characterizes pathological changes: localization, makes a description, incorrectly names the color; - makes an incorrect pathological conclusion/diagnosis, makes gross mistakes during the answer, leaves some questions unanswered
Prescription writing	Excellent Corresponds to ratings: A (4.0; 95-100%); A- (3.67; 90-94%)	Writes a prescription for medicines in the most appropriate dosage form depending on age, gender, and functional characteristics. Writes out a prescription for the selected medicine without errors. Calculates doses using various methods and determines the frequency and duration of use of the medicine.
	Good Corresponds to ratings: B+ (3.33; 85-89%) B (3.0; 80-84%) B- (2.67; 75-79%) C+ (2.33; 70-74%)	Writes a prescription for the selected medication without errors. Calculates the dose of the medicine. Limited to general indications "Internal", "External".
	Satisfactorily Corresponds to ratings: C (2.0; 65-69%) C- (1.67; 60-64%) D+ (1.33; 55-59%) D- (1.0; 50-54%)	Writes a prescription using reference literature/sources. Allows corrections to the prescription.

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**Unsatisfactor
y**
FX (0.5; 25-
49%)
F (0; 0-24%)

Writes a prescription with errors.

Checklist for SIWT/SIW

**Analysis of a
scientific article**

Excellent
corresponds to
points
95-100
90-94

- independently substantiated and argued the relevance of the problem;
- explained the purpose of the work, the materials and methods used in the work;
- freely presented the semantic content of the scientific article;
- argued and substantiated conclusions;
- had the skill of using literature and justifying the selected list of references in this article

Good
corresponds to
points
85-89
80-84
75-79
70-74

- substantiated and argued the relevance of the problem;
- explained the purpose of the work, the materials and methods used in the work;
- outlined the semantic content of the scientific article;
- argued and substantiated conclusions;
- had the skill of using literature and justifying the selected list of references in this article;
- when answering, he made minor mistakes and inaccuracies

Satisfactory
corresponds to
points
65-69
60-64
50-54

- found it difficult to justify and argue the relevance of the problem;
- explained the purpose of the work, the materials and methods used in the work;
- had difficulty expressing the semantic content of a scientific article;
- had difficulty arguing and substantiating conclusions;
- had the skill of using literature and justifying the selected list of references in this article;
- when answering, he made fundamental mistakes and inaccuracies

Unsatisfactory
corresponds to
points
25-49

- found it difficult to justify and argue the relevance of the problem;
- explained the purpose of the work, the materials and methods used in the work;
- had difficulty expressing the semantic content of a scientific article;
- had difficulty arguing and substantiating conclusions;
- failed to demonstrate the skill of using literature and justifying the selected list of literature in this article;
- made gross mistakes when answering

Unsatisfactory
corresponds to
points
0-24

- found it difficult to justify and argue the relevance of the problem;
- could not explain the purpose of the work, the materials and methods used in the work;
- was unable to convey the semantic content of a scientific article;

		<ul style="list-style-type: none"> - was unable to argue and justify the conclusions; - failed to demonstrate the skill of using literature and justifying the selected list of literature in this article; - made gross mistakes when answering
Discussion of the topic	Excellent corresponds to points 95-100 90-94	<ul style="list-style-type: none"> - did not make any mistakes during the discussion; - was oriented in the theories, concepts and directions of the discipline and gave them a critical assessment; - used scientific achievements of other disciplines
	Good corresponds to points 85-89 80-84 75-79 70-74	<ul style="list-style-type: none"> - during the discussion he did not make any gross mistakes, but he did make inaccuracies and minor errors, which he corrected himself; - managed to systematize the program material with the help of the teacher
	Satisfactory corresponds to points 65-69 60-64 50-54	<ul style="list-style-type: none"> - made fundamental mistakes during the discussion; - limited himself to only the educational literature specified by the teacher; - experienced great difficulty in systematizing the material
	Unsatisfactory corresponds to points 25-49	<ul style="list-style-type: none"> - made gross mistakes during the discussion; - did not study the basic literature on the topic of the lesson; - failed to use the scientific terminology of the discipline
	Unsatisfactory corresponds to points 0-24	

Checklist for midterm assessment

Testing - testing is assessed using a multi-point knowledge assessment system.

Form of control	Grade	Evaluation criteria
in carrying out practical work	Excellent corresponds to points 95-100 90-94	<p>The student is well-versed in questioning and examining patients. Correctly and accurately selects questions when collecting anamnesis, accurately analyzes primary and secondary complaints, and is well-versed in the collected anamnesis of life and disease.</p> <ul style="list-style-type: none"> - Accurately performs a basic physical examination: general examination, palpation, percussion, auscultation, measurement of blood pressure, determination of pulse characteristics, respiratory rate, etc.) in children and adolescents.

		<ul style="list-style-type: none"> - Conducts correct linking of objective physical examination data (palpation, auscultation, percussion), correctly interprets laboratory and instrumental examination data. - Able to evaluate pathophysiological patterns of research results. Finds and compares the connection between the main symptoms and syndromes. - Substantiates and establishes a presumptive syndrome-based diagnosis. - Used additional literature when preparing for the lesson. - Systematizes the material on the given topic. - Effectively communicates in medical practice, objectively conveys relevant information, knows and uses the norms of ethics and deontology when performing the skill;
	<p>Good corresponds to points 85-89 80-84 75-79 70-74</p>	<p>The student differentiates between primary and secondary complaints well, is well oriented in the collected anamnesis of life and disease. Is well oriented when questioning and examining patients, but allows minor inaccuracies or fundamental errors, corrected by the student himself.</p> <ul style="list-style-type: none"> - Accurately performs a basic physical examination: general examination, palpation, percussion, auscultation, blood pressure measurement, determination of pulse characteristics, respiratory rate, etc. of children and adolescents. Incapable of correctly interpreting examination results. Does not accurately convey appropriate information; - Links data from objective physical examination (palpation, auscultation, percussion), and incorrectly interprets data from laboratory and instrumental studies. - Has errors in assessing pathophysiological patterns based on research results. Finds and compares the relationship between the main symptoms and syndromes. Establishes a presumptive syndrome-based diagnosis without substantiating the data
	<p>Satisfactory corresponds to points 65-69 60-64 50-54</p>	<ul style="list-style-type: none"> - The student is able to navigate when questioning and examining patients, <u>differentiates between</u> primary and secondary complaints with errors, and is <u>poorly oriented</u> in the collected anamnesis of life and illness. - Makes mistakes when conducting a physical examination (palpation, percussion, auscultation and general examination) and demonstrates incomplete knowledge of the material on a given topic, while making fundamental mistakes. - <u>Links</u> data from objective physical examination (palpation, auscultation, percussion), correctly <u>interprets</u> data from laboratory

		<p>and instrumental studies. Has errors in assessing examination results.</p> <ul style="list-style-type: none"> - Is unable to <u>evaluate</u> pathophysiological patterns of research results. <u>Is unable to determine</u> the relationships between the main symptoms and syndromes. <u>Establishes</u> a presumptive syndrome-based diagnosis without substantiating the data. - Has a low level of communication skills in medical practice; subjectively conveys appropriate information;
	<p>Unsatisfactory corresponds to points 25-49</p>	<ul style="list-style-type: none"> - The student has no idea about the main and secondary complaints, and is not <u>oriented</u> in the collected anamnesis of life and illness. - Is unable to carry out practical skills to interpret their results. <u>Cannot determine the relationship of</u> objective physical examination data (palpation, auscultation, percussion), incorrectly <u>interprets</u> laboratory and instrumental examination data.
	<p>Unsatisfactory corresponds to points 0-24</p>	<ul style="list-style-type: none"> - Does not know how to <u>evaluate</u> pathophysiological patterns of research results. <u>Does not find and is not able to compare</u> the relationship between the main symptoms and syndromes. Establishes a presumptive syndrome-based diagnosis without substantiating the data - Does not participate in the work of the group. Is not able to communicate in medical practice; does not convey proper information, does not know and is not able to use the norms of ethics and deontology when performing the skill. When answering the teacher's questions, gross errors, not using specific terminology in answers.
Case - study	<p>Excellent corresponds to points 95-100 90-94</p>	<ul style="list-style-type: none"> - solved cases within a certain time; - gave full answers to all questions <p>Demonstrates original thinking when analyzing a situational task. Fully utilizes theoretical knowledge necessary to solve a given task. Demonstrates excellent knowledge of reference biochemical parameters when interpreting the proposed biofluid analysis data. Demonstrates the ability to draw logical conclusions on a situational task, while demonstrating a deep understanding of the necessary educational material.</p>
	<p>Good corresponds to points 85-89 80-84 75-79 70-74</p>	<ul style="list-style-type: none"> - solved cases within a certain time; - gave complete answers to all questions; - made minor mistakes when solving cases <p>Possesses the necessary knowledge to solve this situational task. Allows for minor inaccuracies when discussing this case. Is able to draw correct conclusions on the proposed situational task.</p>

	<p>Satisfactory corresponds to points 65-69 60-64 50-54</p>	<p>- solved cases within a certain time; - gave incomplete answers to questions; - made fundamental mistakes when solving cases Allows minor inaccuracies when discussing a given task, has difficulty interpreting analyses proposed in a situational task. Draws conclusions with difficulty</p>
	<p>Unsatisfactory corresponds to points 25-49</p>	<p>- solved cases incorrectly or did not solve them at all; - made gross mistakes when solving cases Allows fundamental errors in discussing a situational task. Passive, unable to draw appropriate conclusions.</p>
	<p>Unsatisfactory corresponds to points 0-24</p>	
Interpretation of clinical laboratory test results	<p>Excellent corresponds to points 95-100 90-94</p>	<p>- correctly, without any errors, interpreted the results of clinical laboratory tests; - made a reasoned conclusion</p>
	<p>Good corresponds to points 85-89 80-84 75-79 70-74</p>	<p>- correctly interpreted the results of clinical laboratory tests, making minor errors; - made a reasoned conclusion</p>
	<p>Satisfactory corresponds to points 65-69 60-64 50-54</p>	<p>- correctly interpreted the results of clinical laboratory studies, having made fundamental mistakes; - made an unfounded conclusion</p>
	<p>Unsatisfactory corresponds to points 25-49</p>	<p>- incorrectly interpreted the results of clinical laboratory tests, making gross errors; - did not draw a conclusion</p>
	<p>Unsatisfactory corresponds to points 0-24</p>	

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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 the discipline 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 any gross mistakes, but he did make inaccuracies and minor errors, which he corrected himself; - managed to systematize the program material with the help of the teacher
	Satisfactory corresponds to points 65-69 60-64 50-54	- made fundamental mistakes during the discussion; - limited himself to only the educational literature specified by the teacher; - experienced great difficulty in systematizing the material
	Unsatisfactory corresponds to points 25-49	- made gross mistakes during the discussion; - did not study the basic literature on the topic of the lesson; - failed to use the scientific terminology of the discipline
	Unsatisfactory corresponds to points 0-24	
MCQ testing	Excellent corresponds to points 95-100 90-94	- correctly completed 90-100% of test tasks
	Good corresponds to points 85-89 80-84 75-79 70-74	- did it correctly 70-89% of test tasks
	Satisfactory corresponds to points 65-69	- did it correctly 50-69% of test tasks

	60-64 50-54	
	Unsatisfactory corresponds to points 25-49	- performed less correctly 50% of test tasks
	Unsatisfactory corresponds to points 0-24	

Checklist for assessing answers to descriptions of macropreparations

No.	Evaluation Criteria/Evaluation	Excellent	Good	Satisfactory	Unsatisfactory
1	Name of the organ	4	3	2	0
2	Organ size	10	7	5	0
3	Surface: condition of the capsule or serous membrane, dimness, shiness, plaque on a surface	1	1	1	0
4	Characteristics of the pathological focus: localization, size, shape (if ulcer- condition of the bottom), color, consistency	5	4	2	0
5	Pathological diagnosis/conclusion				
6	Total	20	15	10	0

Checklist for assessment answers on the description of micropreparations

No.	Evaluation Criteria/Evaluation	Excellent	Good	Satisfactory	Unsatisfactory
1	Name of an 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

Checklist for assessing the analysis of scientific articles

Score in points by %	Unsatisfactory (0-49%)	Satisfactory (65-54%)	Good (70-89%)	Excellent (90-100%)
Evaluation criteria				

Structure of the article	1. Does not name the structural components of a scientific article	1. Does not follow the order of the structure of the scientific article when listing, skips components	1. Lists the structural components of a scientific article, but violates the order of the structure	1. Observes the order of the structure of a scientific article when listing: - Name - Authors - Publishing house - Summary - General part (introduction, purpose, materials and methods, results and discussion) - Conclusions - Bibliography
Analysis of the content of a scientific article	1. Does not understand the relevance of the problem, is not capable of discussing the content of the article	1. Understands the relevance of the problem 2. Lists the purpose of the work, the materials and methods used in the work 3. Understands the content of a scientific article 4. Lists the conclusions and bibliography in this article	1. Assumes the relevance of the problem 2. Explains the purpose of the work, the materials used in the work and methods presents the content of a scientific article 3. Justifies the conclusions 4. Justifies the selected list of references in this article	1. Independently substantiates and argues the relevance of the problem 2. Explains the purpose of the work, the materials and methods used in the work 3. Freely expresses the semantic content of a scientific article 4. Argues and justifies conclusions 5. Has the skill of using literature and justifies the selected list of literature in this article
Answer to additional questions (on the topic of the article for the discipline)	1. Does not answer additional questions on the topic	1. Does not understand the problem at hand when answering additional questions	1. Apply the knowledge gained during the practical lesson on the topic when answering additional questions	1. Applies the knowledge gained during the practical lesson on the topic when answering additional questions, provides a deep and

				comprehensive argumentation
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Multi-point knowledge assessment system

Letter Grading	Digital equivalent of points	Percentage content	Traditional system assessment
A	4.0	95-100	Excellent
A -	3.67	90-94	
B +	3.33	85-89	Fine
IN	3.0	80-84	
IN -	2.67	75-79	
C +	2.33	70-74	Satisfactory
C	2.0	65-69	
C -	1.67	60-64	
D+	1.33	55-59	
D-	1.0	50-54	
FX	0,5	25-49	Unsatisfactory
F	0	0-24	

11. Educational resources

Electronic resources	<ol style="list-style-type: none"> 1. Electronic library of YUKMA - https://e-lib.skma.edu.kz/genres 2. Republican Interuniversity Electronic Library (RIEL) – http://rmebrk.kz/ 3. Digital library " Aknurpress " - https://www.aknurpress.kz/ 4. Electronic library "Epigraph" - http://www.elib.kz/ 5. Epigraph - portal of multimedia textbooks https://mbook.kz/ru/index/ 6. EBS IPR SMARThttps://www.iprbookshop.ru/auth 7. information and legal system " Zan" - https://zan.kz/ru 8. Cochrane Library - https://www.cochranelibrary.com/
Electronic textbooks	<p>Propaedeutics and Internal Medicine:</p> <p>Ivashkin, V. T. Internal diseases propedeutics [Electronic Source] : textbook / V. T. Ivashkin, A. V. Okhiobystin. - Электрон. текстовые дан. (142Мб). - М. : ГЭОТАР - Медиа, 2017. - эл. опт. диск (CD-ROM).</p> <p>Внутренние болезни. Т. 2 [Electronic Source] : учебник / под ред. В. С. Моисеева. - 3-е изд., испр. и доп. - Электрон. текстовые дан. (45.1Мб). - М. : ГЭОТАР - Медиа, 2015. - 895 с.</p> <p>Внутренние болезни. Т. 1 [Electronic Source] : учебник / под ред. В. С. Моисеева. - 3-е изд., испр. и доп. - Электрон. текстовые дан. (66.5Мб). - М. : ГЭОТАР - Медиа, 2015. - 960 с.</p>

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Supplementary:

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ОҢТҮСТІК ҚАЗАҚСТАН MEDISINA АКАДЕМИАСЫ «Оңтүстік Қазақстан медицина академиясы» АҚ	 SKMA -1979-	SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казakhstanская медицинская академия»
Department of Biology and Biochemistry Department of Pathology and Forensic Medicine Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology Department of Propaedeutics and Internal Medicine Department of Pediatrics-1		38/11-2024 Page 55 of 56
Working studying program of the discipline " Blood and lymph in pathology " (Syllabus) Educational program 6B10115 "Medicine"		

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

- observe medical ethics and deontology;
- no smoking in the academy;
- maintain cleanliness in the department;
- do not damage furniture in classrooms;
- treat textbooks with care;
- maintain the appearance of a medical university student;
- observe safety regulations;
- during quarantine, wear medical masks and comply with sanitary and epidemiological regulations;
- do not miss classes without a valid reason;
- classes missed for a valid reason must be made up in a timely manner, but only with permission from the dean's office and at a time determined by the teacher;
- don't be late for classes;
- have the necessary documentation in class: syllabus, methodological instructions for classes, lectures, notebook and textbook;
- prepare for classes conscientiously;
- be active during classes;
- do not engage in other activities during classes: do not talk, do not smoke, do not chew gum, do not eat food, do not use the phone, do not listen to music, do not read newspapers and magazines, do not prepare for classes in another subject;
- maintain silence and order during breaks;
- implement SIW in a timely manner.

Penalties for failure to complete sections of the work:

- If you miss lectures without a valid reason, your grade for the midterm assessment will be reduced – 1 point for each missed lecture;
- If you miss a SIW without a valid reason, your midterm assessment score will be reduced by 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 delivered to the faculty dean's office.

Criteria for non-admission to final control:

A student who has received an unsatisfactory grade for one of the types of controls (ME 1, ME 2, average grade of the current rating) is not admitted to the final control for the discipline.

13.	Academic policy based on the moral and ethical values of the academy
	Regulations and Rules of SKMA. Academic policy.
	P.4. Code of honor of the student
	P.10. Organization of the educational process

Department of Biology and Biochemistry
Department of Pathology and Forensic Medicine
Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology
Department of Propaedeutics and Internal Medicine
Department of Pediatrics-1

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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.

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

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

$$\text{ME avg} = (\text{ME1} + \text{ME2}) / 2$$

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

RA – rating of admission

FC – assessment of final control

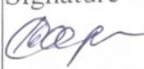



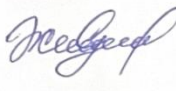
ME avg – average score of midterm control, taking into account penalty points

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

ME 1 – midterm examination 1

ME 2 – midterm examination 2

14. Approval and revision

Date of agreement with the library and information center	Protocol No.	Head of the BIC	Signature
	No. <u>9</u> 14.06.24	Darbicheva R.I.	
Date of approval for AK OP	Protocol No. <u>11</u> 14.06.24	Full name of the Chairman of the AK OP Калменов Н.Ф.	Signature 
Date of approval at the department Propaedeutics of Internal Diseases	Protocol No. <u>10</u> 31.05.24	Full name of the head Бекмурзаева Э.К.	Signature Бекмурзаева
Date of approval at the department Pediatrics-1	Protocol No. <u>11</u> 30.06.24	Full name of the head Кемеловбеков Н.С.	Signature 
Date of approval at the department Pathology and Forensic Medicine	Protocol No. <u>11</u> 26.05.24	Full name of the head Саганова С.И.	Signature 
Date of approval at the department Pharmacology, Pharmacotherapy and clinical pharmacology	Protocol No. <u>11</u> 10.06.24	Full name of the head Шоксанбаева М.С.	Signature 
Date of approval at the department Chemical disciplines, Biology and Biochemistry	Protocol No. <u>13</u> 30.05.24	Full name of the head Есіркепов И.И.	Signature И.И. Есіркепов