MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION,
MINISRTY OF SCIENCE, HIGHER EDUCATION AND INNOVATION
KYRGYZ REPUBLIC

IEO HE KYRGYZ-RUSSIAN SLAVIC UNIVERSITY
named after the first President of the Russian Federation B.N. Yeltsin

APPROVED
Директор ИКМиБМТ
Абилова С.С.
04.11.2026 г.

Hematology

Course (Module)Annotation

Developed by	**Therapies**
Curriculum	310501_23_4 ла яз.plx Specialty 560001 - General Medicine (Kyrgyz Republic) (for international students)
Qualification	**Physician (General medicine)**
Mode of study	**Intramural(Full-time)**

Distribution of Course Hours by Semester

Semester (<Year> <Semester in the year>)	8 (4.2)		Total	
Weeks	17			
Type of class	Curriculum	Work	Curriculum	Work programme
Lectures	16	16	16	16
Practical classes	16	16	16	16
Contact hours during the theoretical training period	0,3	0,3	0,3	0,3
including: interactive	2	2	2	2
Total classroom	32	32	32	32
Contact hours	32,3	32,3	32,3	32,3
Independent study	39,7	39,7	39,7	39,7
Total	72	72	72	72

1. COURSE OBJECTIVES	
1.1	The main objective of teaching hematology is to provide students with an understanding of the different clinical courses of the major nosological forms of diseases of the blood system, as well as less common hematological disorders.

2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAMME STRUCTURE	
Cycle (section) of the educational	Б1.В.ДВ.06
2.1	**Prerequisites:**
2.1.1	Normal Physiology (Professional Cycle)
2.1.2	Clinical Pharmacology (Professional Cycle)
2.1.3	Introduction to Internal Medicine (Professional Cycle)
2.1.4	Pathological Anatomy (Professional Cycle)
2.1.5	Pathophysiology and Clinical Pathophysiology (Professional Cycle)
2.1.6	Faculty-Level Internal Medicine (Professional Cycle)
2.1.7	B2.O.01 (Practical Training). General Nursing Care for Patients with Internal Medicine Conditions
2.1.8	Histology, Embryology and Cytology (Professional Cycle)
2.2	**Courses and practical training for which completion of this course (module) is a prerequisite:**
2.2.1	Family Medicine (Professional Cycle)
2.2.2	Outpatient Internal Medicine (Professional Cycle)
2.2.3	Hospital-Based Internal Medicine (Professional Cycle)
2.2.4	Oncology and Radiation Therapy (Professional Cycle)
2.2.5	Gerontology (Professional Cycle)

3. COMPETENCIES DEVELOPED UPON COMPLETION OF THE COURSE (MODULE)	
PC-5: Able and prepared to conduct and interpret patient interviews, physical examinations and clinical assessments; interpret the results of modern laboratory and instrumental investigations; and complete outpatient and inpatient medical records for adult and pediatric patients.	
Knowledge:	
Level 1	The methodology of clinical assessment of patients with blood disorders: algorithms for taking a medical history and performing a physical examination (inspection, palpation, percussion and auscultation) in adults and children. Anatomical and physiological features: normal and pathological structure and function of the hematopoietic organs and system. Clinical presentation: the main symptoms and syndromes of the most common diseases. Diagnostic methods for blood disorders and interpretation of their results.
Skills:	
Level 1	Take a medical history from a patient with a hematological disorder: conduct a detailed interview with the patient (or the child's legal representatives), identify complaints and establish the history of the disease. Perform a physical examination: conduct a complete objective examination by organ system in adult patients and children of different ages.
Level 3	Perform differential diagnosis of blood disorders in relation to one another and to diseases of other organ systems.
Practical competencies:	
Level 1	Clinical reasoning skills: the ability to correlate interview, examination and laboratory/instrumental findings to establish a preliminary or final diagnosis in a patient with a blood disorder. Physical examination techniques: practical skills in palpation, percussion and auscultation (e.g. auscultation of the heart and lungs, and abdominal palpation). Skills in analyzing laboratory and instrumental investigation results in hematology patients.

PC-16: Able and prepared to use diagnostic algorithms to establish the principal diagnosis, comorbidities and complications in accordance with the International Classification of Diseases (ICD), and to perform essential diagnostic procedures to identify urgent and life-threatening conditions.	
Knowledge:	
Level 1	Algorithms for disease-specific diagnosis: principles and sequence of formulating a diagnosis (identification of the principal disease, its complications and comorbid conditions).

Skills:	
Level 1	Formulate a comprehensive hematological diagnosis, specifying the disease form, stage (cytogenetic/molecular subtype), clinical course and severity of manifestations (e.g. degree of anemia or cytopenia). Recognize hematological emergencies: promptly differentiate

	the signs of acute disseminated intravascular coagulation (DIC), severe hemolysis, or impending septic shock in the setting of agranulocytosis.
Practical competencies:	
Level 1	Algorithms for the differential diagnosis of critical hematological conditions: experience in rapidly identifying the causes of hemorrhagic or anemic shock in hematology patients.

PC-17: Able and prepared to provide the main therapeutic interventions for the most common diseases and conditions in adults and children in outpatient and inpatient settings.	
Knowledge:	
Level 1	Principles of treatment of hematological diseases: current standards and clinical guidelines for the treatment of anemia of various etiologies, hematologic malignancies (leukemias and lymphomas), myeloproliferative diseases and coagulopathies in adults and children. Pharmacotherapy in hematology: mechanisms of action, regimens, adverse effects and contraindications of the main drug groups. Fundamentals of transfusion medicine: indications, contraindications and rules for performing blood transfusions.
Skills:	
Level 1	Prescribe pathogenetic treatment: develop a plan of conservative therapy for the most common diseases. Organize transfusion support.
Practical competencies:	
Level 1	Algorithms for selecting treatment strategies: experience in making clinical decisions between outpatient management and emergency/planned admission to a hematology department. Skills in managing acute conditions: experience in providing first aid and specialized care for hematological complications (control of hemorrhagic syndrome in hemophilia or thrombocytopenia, and treatment of acute hemolytic crisis).

PC-18: Able and prepared to provide medical care for acute diseases and conditions, and exacerbations of chronic diseases that are not life-threatening and do not require emergency medical intervention.	
Knowledge:	
Level 1	Clinical manifestations of exacerbations of chronic hematological diseases: symptoms of decompensation of chronic anemia (iron-deficiency and vitamin B12-deficiency anemia), exacerbations of immune thrombocytopenia, and the stable/expected course of hematologic malignancies and myelofibrosis. Principles of urgent (but not emergency) treatment in hematology.
Skills:	
Level 1	Assess the severity of an exacerbation: distinguish non-life-threatening deterioration (e.g. a decrease in hemoglobin to 80 g/L or platelet count to 50×10^9/L) from terminal critical conditions. Prescribe and adjust symptomatic treatment.
Practical competencies:	
Level 1	Algorithms for managing scheduled hematology patients with decompensation: experience in selecting individualized treatment regimens in the outpatient setting. Skills in interpreting trends in laboratory tests: experience in assessing serial complete blood counts and blood biochemistry to monitor the effectiveness of outpatient treatment of an exacerbation.

Upon completion of the course, the student should:

3.1	**Knowledge:**
Анатомо-физиологические основы: закономерности нормального кроветворения (гемопоэза), возрастной эволюции системы крови у детей и взрослых, а также механизмы гемостаза.Этиологию и патогенез: современные концепции развития анемий, гемобластозов (лейкозов, лимфом), миелопролиферативных и лимфопролиферативных заболеваний, наследственных и приобретенных коагулопатий (включая гемофилию, болезнь Виллебранда, тромбофилии).Клиническую симптоматологию: классические клинические синдромы в гематологии (анемический, геморрагический, сидеропенический, лимфопролиферативный, опухолевой интоксикации, иммунодефицитный/цитопенический). Классификацию и стандарты: Международную классификацию болезней (МКБ) в части патологии кроветворения, современные клинические рекомендации по диагностике и лечению заболеваний системы крови.Методы диагностики: принципы, диагностическую ценность и показания к лабораторно-инструментальным исследованиям в гематологии (клинический анализ крови с подсчетом ретикулоцитов и тромбоцитов, миелограмма, трепанобиопсия, коагулограмма, цитогенетические, молекулярно-генетические и иммунофенотипические исследования). Принципы терапии: основы протокольной химиотерапии, таргетной и иммунотерапии, супрессивной и сопроводительной терапии (профилактика инфекций, синдрома лизиса опухоли, эметогенности), а также правила и показания к трансфузии компонентов крови (эритроцитарная, тромбоцитарная масса, СЗП). Угрожающие жизни состояния: критерии диагностики и принципы лечения экстренных состояний в гематологии (ДВС-синдром, фебрильная нейтропения, септический шок, гиперлейкоцитоз и лейкостаз, синдром лизиса опухоли, острый гемолитический криз, массивные кровотечения).	

3.2	Skills:

Conduct clinical assessments: take a focused medical history and perform a detailed physical examination (assess skin pallor/jaundice, identify petechiae and ecchymoses, and palpate all groups of lymph nodes, the liver and spleen) in adults and children.
Apply diagnostic algorithms: develop a justified investigation plan and formulate a detailed preliminary and final clinical diagnosis (principal diagnosis, complications and comorbidities), specifying the stage, severity, cytogenetic variant and ICD code.
Interpret investigation results: analyze peripheral blood parameters (identify anemia, pancytopenia and blastemia), coagulation test results (assess the risk of hypo- and hypercoagulation), and findings from bone marrow aspiration and biopsies. Prescribe and adjust treatment: select treatment regimens for common hematological diseases (iron-deficiency anemia, vitamin B12-deficiency anemia and immune thrombocytopenia) in outpatient and inpatient settings, calculate drug doses, and determine indications for planned, urgent or emergency hospitalization. Recognize and manage critical conditions: promptly identify markers of life-threatening complications and provide first aid and urgent medical care in subacute exacerbations and critical hematological situations.
Maintain medical documentation: complete outpatient and inpatient medical records, including blood component transfusion records, medication charts, progress notes and discharge summaries.

3.3	Practical competencies:

Clinical reasoning: skills in the differential diagnosis of hematological syndromes that may mimic other systemic diseases.
Physical examination of the hematopoietic organs: practical skills in palpation and percussion of the spleen (including measurement according to Kurlov) and liver, and assessment of the musculoskeletal system (percussion of the sternum and long bones). Emergency diagnostic algorithms: skills in the rapid assessment of a hemogram and coagulation tests under time constraints to recognize hemorrhagic shock, DIC or agranulocytosis.
Transfusion support: experience in determining a patient's ABO blood group and Rh status and performing compatibility tests (on a slide and a biological compatibility test) at the patient's bedside.
Local hemostasis techniques: skills in controlling accessible external and nasal bleeding (anterior nasal packing and use of topical hemostatic agents). Management of hematology patients: skills in long-term monitoring of treatment effectiveness, assessment of hematological and non-hematological drug toxicity, and correct coding of diagnoses in accordance with the ICD.