FEDERAL STATE BUDGETARY
EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
«AMUR STATE MEDICAL ACADEMY»
MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

AGREED
Vice-Rector for Academic Affairs,
__________N.V. Loskutova

April 17, 2025

Decision of the CCMC
April 17, 2025

Protocol No. 7

APPROVED
by decision of the Academic Council of the FSBEI HE Amur SMA of the Ministry of Health of the Russian Federation
April 22, 2025
Protocol No. 15

Acting Rector of the FSBEI HE Amur SMA of the Ministry of Health of the Russian Federation
__________I.V. Zhukovets
April 22, 2025

ДОКУМЕНТ ПОДПИСАН
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат: 50AB2242604E64520B52614FA420034A
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Действителен: с 15.04.2025 до 09.07.2026

EDUCATIONAL PROGRAM

discipline «Hospital Therapy»

Specialty: 31.05.01 General Medicine
Course: 5, 6
Semester: 10, 11, 12
Total hours: 360 hrs.
Total credits: 10 credit units
Control form: examination, 12 semester

Blagoveshchensk, 2025

The educational program of the discipline is designed in accordance with the requirements of the Federal State Educational Standard of Higher Education - specialist in specialty 31.05.01 General Medicine, approved by the order of the Ministry of Education and Science of Russia dated 08.12.2020 No. 988 (registered with the Ministry of Justice of Russia on 08.26.2020 No. 59493), BPEP HE (2021).

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APPROVED at the meeting of the Department of Hospital Therapy with a Course in Pharmacology named after Professor Yu.S. Landyshev,
Protocol No. 8 dated April 16, 2025

Head of the Department of Hospital Therapy with a Course in Pharmacology named after Professor Yu.S. Landyshev, Holder of an Advanced Doctorate (Doctor of Science) in Medical Sciences, Full Professor_____V.V. Voitsekhovsky

Conclusion of the Expert Commission on the review of the Educational Programs:
Protocol No. 1 dated April 16, 2025
Expert of the Expert Commission, Holder of an Advanced Doctorate (Doctor of Science) in Medical Sciences, Associate Professor____E.E. Molchanova

APPROVED at the meeting of the CMC No.3: Protocol No. 6 dated April 17, 2025
Chairman of the CMC No. 3
Holder of an Advanced Doctorate (Doctor of Science) in Medical Sciences,
Full Professor_____ V.V. Voitsekhovsky

AGREED: Dean of the Faculty of General Medicine,
Ph.D. of Medical Sciences _____ N.G. Brush

April 17, 2025

CONTENT OF THE WORK PROGRAMME

1. EXPLANATORY NOTE

1.1 Discipline overview

Within the overall structure of morbidity, internal diseases rank among the most prevalent and often lead to disability and mortality. Internal medicine, as the foundation of clinical medicine, is taught across all departments of therapeutic specialties, playing a pivotal role in the practical training of physicians in all fields.

Through the study of discipline "Hospital Therapy", students develop the fundamentals of clinical reasoning, medical ethics, and deontology - essential competencies for any future specialist, regardless of their area of practice.

The curriculum for discipline "Hospital Therapy" is designed to develop students' professional competencies through comprehensive clinical patient examinations and syndromic differential diagnostics, enabling accurate clinical diagnosis and the formulation of treatment, rehabilitation, and preventive care plans.

A key focus of student training in the therapeutic clinic is independent work - both in patient wards and diagnostic departments (including functional diagnostics, endoscopy, radiology, and clinical laboratories) - under the supervision of instructors. This approach fosters the development of clinical reasoning skills essential for future physicians.

The discipline Hospital Therapy is part of the core curriculum of Block 1 under the Federal State Educational Standard of Higher Education. It is a mandatory component of training and serves as an educational module aimed at developing the foundations of clinical reasoning in future medical professionals. The course is designed to provide both theoretical knowledge and practical skills.

Through the study of Hospital Therapy, students acquire fundamental competencies in: clinical diagnosis methodology, symptomatology and clinical syndrome complexes, differential diagnostics, key principles of pharmacotherapy for major nosological forms, while considering disease progression patterns, potential complications, and comorbid conditions.

The discipline "Hospital Therapy" program for 5th and 6th year students comprise 360 total hours, distributed as follows: lectures: 66 hours; clinical practical sessions: 150 hours'; independent student work: 108 hours; examination: 36 hours.

Instructional formats include: lectures, clinical practical training, supervised and unsupervised independent study

Classes in the discipline "Hospital Therapy" are held in 3 semesters: 150 hours of clinical practical training (34 hours in 10 semester, 58 hours - in 11 semester, 58 hours - in 12 semester) and 66 hours of lectures (in 10, 11, 12 semesters). Classes in the discipline are held in accordance with the curriculum in classrooms and wards of departments of therapeutic profile of hospitals, in the Accreditation and Simulation Center

1.2 Objective and learning outcomes of the discipline

Program goal: to train highly qualified specialists with comprehensive knowledge, skills, and competencies in hospital internal medicine, preparing them for professional practice in General Medicine.

Learning outcomes: the program aims to develop clinical reasoning abilities and professional competencies by enabling students to:

1. diagnose early manifestations of various internal diseases in a timely manner;
2. accurately analyze clinical and anamnestic data along with physical examination findings;
3. perform differential diagnosis of principal nosological forms in internal medicine practice;
4. correctly interpret results of ancillary diagnostic tests;
5. manage medical documentation in hospital settings;
6. formulate comprehensive clinical diagnoses according to modern classification systems, accounting for complications and comorbid conditions;
7. develop individualized treatment, rehabilitation, and prevention plans for patients with various internal diseases, considering: etiological factors; pathogenetic mechanisms; disease activity levels; clinical manifestations; functional status of organs and systems;
8. Apply fundamental principles of emergency care for urgent conditions within the scope of studied disease entities.

1.3 Position of the Discipline within the Higher Education Professional Curriculum

In compliance with the Federal State Educational Standard for Higher Education (FSES HE) - Specialist program in General Medicine (Specialty Code 31.05.01, 2020), discipline "Hospital Therapy" is classified as a core discipline within Block 1 (Fundamental Component).

The total labor input is 10 credit units (360 hours), taught in 10, 11, 12 semesters in 5, 6 courses. The form of control is an exam in the 12th semester.

Disciplinary Components. The curriculum comprises seven core modules:

1. Pulmonology
2. Cardiology
3. Hematology
4. Gastroenterology
5. Nephrology
6. Electrocardiography
7. Practical Clinical Skills (training at the Accreditation and Simulation Center)

1.4 Requirements for Students

To successfully study the discipline, students must possess the following knowledge, skills, and competencies acquired from preceding courses:
Latin Language
Knowledge: basic medical and pharmaceutical terminology in Latin
Skills: apply terminology for professional communication and information retrieval from medical literature and documentation
Competencies: uses latin medical and pharmaceutical terminology in professional practice
Professional Foreign Language
Knowledge: basic medical and pharmaceutical terminology in a foreign language
Skills: apply terminology to access and interpret international medical sources
Competencies: uses foreign-language medical terminology in professional contexts
History of Medicine
Knowledge: key figures in medicine, Nobel laureates, major therapeutic discoveries, and the influence of humanistic ideas on medicine
Skills: analyze and articulate contributions of domestic scientists to immunology
Competencies: applies historical research insights to evaluate modern medical literature

Philosophy
Knowledge: methods of philosophical analysis; evolution of scientific cognition; laws of dialectical materialism in medicine.
Skills: analyze forms/methods of scientific cognition and dialectical materialism in medicine.
Competencies: applies scientific reasoning to analyze medical information.
Bioethics
Knowledge: moral/ethical norms in medicine; patient/physician rights; regulatory ethical documents.
Skills: establish professional relationships with patients and colleagues.
Competencies: implements ethical standards in clinical practice and teamwork.
Histology
Knowledge: embryogenesis; histological tissue/organ structure.
Skills: interpret age-related organ development; analyze histophysiological data.
Competencies: evaluates histological findings (e.g., biopsies) in internal diseases
Microbiology & Virology
Knowledge: pathogenic effects of microbes/viruses/fungi; microbiological diagnostics
Skills: interpret microbiological test results
Competencies: utilizes diagnostic data for differential diagnosis of internal diseases
Medical Informatics
Knowledge: mathematical methods for solving intellectual problems in medicine; theoretical foundations of informatics: data collection, storage, retrieval, processing, and dissemination in medical/biological systems; use of computer-based information systems in healthcare; principles of medical equipment operation and underlying physical/mathematical laws
Skills: utilize educational, scientific, and popular science literature; navigate internet resources for professional purposes; operate medical equipment following safety protocols;
Competencies: applies information technologies in professional practice with proficient PC skills
Bioorganic Chemistry in Medicine
Knowledge: chemical-biological essence of molecular and cellular processes in living organisms; role of chemistry in cardiovascular, respiratory, digestive, urinary, and hematopoietic systems.
Skills: analyze chemical processes governing physiological system functions
Competencies: interprets laboratory findings to support diagnosis and evaluate treatment efficacy
Bioinorganic & Biophysical Chemistry in Medicine
Knowledge: blood composition and biochemical constants; hormones, buffer systems, hemoglobin oxygenation factors; rythrocyte metabolism.
Skills: analyze the contribution of biochemical processes in the functioning of organs and cardiovascular, respiratory, digestive, urinary, hematopoietic systems, interpret the results of the most common methods of laboratory diagnostics to identify disorders in diseases of internal organs and occupational diseases
Competencies: interprets laboratory results to support diagnosis and treatment efficacy

Biology
Knowledge: genetic laws and their medical significance; heredity/variability patterns in pathogenesis of hereditary/multifactorial diseases; biosphere ecology, parasitism, and bioecological diseases.
Skills: analyze hereditary/variability patterns in internal and occupational diseases
Competencies: identifies key genes associated with internal organ pathologies
Anatomy
Knowledge: anatomical-physiological features of respiratory, cardiovascular, digestive, and hematopoietic systems
Skills: analyze age- and sex-related structural variations in organs/systems
Competencies: applies anatomical knowledge to clinical examination of major organ systems
Normal Physiology
Knowledge: reflex arc, conditioned/unconditioned reflexes; physiology of cardiovascular, digestive, urinary, respiratory, and hematopoietic systems in healthy states.
Skills: analyze the importance of regulation of biological processes in the human body on the functioning of the cardiovascular, digestive, urinary, respiratory, hematopoietic systems
Competencies: applies physiological principles to clinical practice
Occupational Safety
Knowledge: acute/chronic diseases from ionizing radiation (e.g., radiation sickness)
Skills: assess impact of ionizing radiation on occupational pathology
Competencies: implements safety protocols in medical practice
Pathophysiology & Clinical Pathophysiology
Knowledge: morphological tissue changes in pathologies of cardiovascular, respiratory, digestive, urinary, and hematopoietic systems
Skills: evaluate pathophysiological contributions to internal diseases
Competencies: utilizes pathogenesis principles to guide therapeutic decisions
Immunology
Knowledge: types of immunity, immune response regulation, immunopathology causes/manifestations; immune status assessment methods and immunotherapy indications
Skills: identify syndromes and symptoms of diseases associated with immune system disorders, prescribe clinical and immunologic examination, formulate an immunologic diagnosis, prescribe immunocorregulatory therapy and prophylactic measures to prevent diseases of the immune system
Competencies: interprets immunogram results for diagnosing internal diseases and complications

Pharmacology
Knowledge: pharmacokinetics and pharmacodynamics; adverse effects of medications
Skills: prescribe drugs and write prescriptions; identify indications/contraindications for drug therapy
Competencies: selects appropriate pharmacotherapy for internal medicine conditions
Propaedeutics of Internal Medicine
Knowledge: patient history-taking techniques; physical examination methods (palpation, percussion, auscultation)
Skills: perform comprehensive patient assessments; identify key clinical syndromes
Competencies: synthesizes history, physical exam, and diagnostic data for accurate clinical diagnosis
Public Health & Healthcare Economics
Knowledge: basics of legislation of the Russian Federation on the protection of public health, basic normative and technical documents; indicators of public health, factors shaping human health (environmental, occupational, natural-climatic, endemic, social, epidemiological, psycho-emotional, occupational, genetic)
Skills: analyze healthcare quality; calculate medical statistics; yvaluate population health factors
Competencies: applies the procedures and standards of medical care for therapeutic patients, knows the main terms of incapacity for work in these diseases
Pathological Anatomy
Knowledge: etiology, pathogenesis, morphogenesis, pathomorphosis of disease, principles of disease classification; structural and functional bases of diseases and pathological processes; causes, mechanisms of development and outcomes of typical pathological processes.
Skills: visually assess and record changes in the organs and tissues of the cadaver, substantiate the nature of the pathological process and its clinical manifestations; give a conclusion on the cause of death and formulate a pathologoanatomical diagnosis;
Competencies: utilizes pathological and biopsy findings for diagnostic purposes
Emergency Medicine in Internal Medicine
Knowledge: etiology, pathogenesis, classification of acute conditions; clinical manifestations, complications, diagnosis, treatment and prevention of medical emergencies
Skills: diagnose urgent conditions in internal medicine; formulate and justify clinical diagnoses; perform differential diagnosis; provide emergency care
Competencies: delivers emergency medical care for critical conditions in internal medicine practice
Departmental Internal Medicine
Knowledge: etiology, pathogenesis, classification of major diseases affecting: respiratory system; cardiovascular system; digestive system; urinary system; hematopoietic system
Skills: establish clinical diagnoses; develop examination and treatment plans; recognize and manage acute complications
Competencies: diagnoses and treats primary conditions in internal medicine practice

1.5 Interdisciplinary Connections with Subsequent Disciplines

№ Sl. No	Subsequent Discipline	Relevant Sections of discipline «Hospital Therapy»						
		1	2	3	4	5	6	7
1.	Outpatient Internal Medicine	+	+	+	+	+	+	+
2.	Phthisiology	+	+	+	+	+	+	+
3.	Clinical Pharmacology	+	+	+	+	+	+	+
4.	Anesthesiology, Critical Care & Intensive Therapy	+	+	+	+	+	+	+
5.	Dermatovenerology	+	+	+	+	+	+	+
6.	Differential Diagnosis in Cardiology	+	+	+	+	+	+	+
7.	Oncology & Radiation Therapy	+	+	+	+	+	+	+
8.	Modern Diagnostic & Treatment Methods in Hematology	+	+	+	+	+	+	+

1.6 Requirements for Learning Outcomes

The study of discipline «Hospital Therapy» is designed to develop the following competencies: **Universal Competencies (UC), General Professional Competencies (GPC) and Professional Competencies (PC)**: UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, 10, 12, 14.

№ Sl. No	Code and name of the competence	Code and name of the competence achievement indicator	As a result of studying the academic discipline "Hospital Therapy", the student must:		
			Know	**Be able to**	**Master**
Universal Competencies					
1	**UC-1.** Able to critically analyze problem situations on the basis of systematic approach, develop a strategy of action	**AI UC-1.1.** Analyzes a problem situation as a system, identifying its components and the relationships between them. **AI UC-1.2.** Identifies gaps in information required for resolving problem situations and designs processes to address them. **AI UC-1.3.** Applies systems analysis to resolve problem situations in the professional domain. **AI UC-1.4.** Utilizes logical-methodological tools to critically evaluate contemporary philosophical and social concepts within their subject area. **AI UC-1.5.** Critically assesses the reliability of information sources and works with contradictory information from diverse sources.	The main historical stages of development of clinical pulmonology, subject and objectives of the discipline, connection with other medical-biological and medical disciplines; the main terms and concepts used in hospital therapy; modern concepts in the study of hospital therapy; principles of using logical-methodological tools for critical evaluation of modern concepts of philosophical and social character in hospital therapy;	To characterize the stages of formation of hospital therapy as a discipline and its role at the present stage; to assess the levels of organization of the main systems; to evaluate the contribution of domestic scientists in the development of the therapeutic school; to develop and argue the strategy of solving problem situations on the basis of systemic and interdisciplinary approaches in hospital therapy, taking into account comorbidity.	Ability to analyze the significance of hospital therapy at the present stage; system analysis of the obtained data to solve problem situations in the professional sphere; methodology of development and argumentation of the strategy for solving problem situations on the basis of systemic and interdisciplinary approaches in the clinic of internal medicine; critical approach to the evaluation and reliability of information sources, methodology of working with contradictory information obtained from different sources.
2	**UC-3. -** Able to organize and lead	**AI UC-3.1.** Establishes and develops professional contacts in accordance with the needs of joint activities,	Basic principles of tolerant perception of social, ethnic, confessional and cultural	Tolerantly perceive social, ethnic, confessional and cultural differences when working in a team;	Ability to develop a team strategy to achieve the set goal, including professional goals;

	a team, developing a team strategy to achieve the set goal	including exchange of information and development of a common strategy; works in a team in a tolerant manner, perceives social, ethnic, confessional and cultural differences.	differences when working in a team; skills of effective and conflict-free communication in the team	communicate effectively and without conflict in a team, including developing a team strategy to achieve the set goal.	methods of effective and conflict-free communication in a team; tolerance to social, ethnic, confessional and cultural differences.
General professional competencies					
3	**GPC-1.** Able to implement moral and legal norms, ethical and deontological principles in professional activities	**AI GPC-1.1.** Carries out professional activities in accordance with ethical norms and moral-ethical principles. **AI GPC-1.2.** Organizes professional activities, guided by healthcare legislation, knowledge of medical ethics, and deontology. **AI GPC-1.3.** Possesses skills in presenting an independent point of view, analysis and logical thinking, public speaking, moral-ethical argumentation, conducting discussions and roundtables, and adheres to the principles of medical deontology and medical ethics.	Ethical and Deontological Aspects of Relationships in "Physician-Physician" and "Physician-Patient" interactions; principles of effective and conflict-free communication with patients; methods of effective communication between physician and patient in difficult situations; core requirements for a physician's personal qualities; general principles for conducting discussions and roundtable meetings.	To perform: conduct physical examinations of patients while observing ethical and deontological principles; communicate effectively and without conflict with patients, relatives, and colleagues; establish effective therapeutic relationships with patients; maintain principles of confidentiality; conduct discussions while adhering to principles of moral-ethical argumentation.	To possess as skills: competence in communicating with patients, relatives, colleagues, and junior staff; ability to identify reasons for patient visits; methods of verbal and non-verbal communication with patients; principles of confidentiality in professional practice and collegial communication; commitment to continuous improvement of communication skills in medical practice.
4	**GPC-4.** apable of applying medical devices as stipulated by healthcare regulations	**AI GPC -4.1.** Utilizes modern medical technologies, specialized equipment, medical devices, disinfectants, pharmaceuticals (including immunobiological agents), and other substances/combinations when solving	Indications and contraindications for the use of modern medical technologies, medical devices, drugs, instrumental, functional and laboratory methods of examination in hospital therapy;	Apply modern medical technologies, specialized equipment, medical devices, medicines in accordance with the order of medical care, from the position of evidence-based medicine in the field of hospital therapy;	Ability to use modern medical technologies, specialized equipment, medical devices, drugs and their combinations, from the position of evidence-based medicine in hospital therapy;

	and performing patient examinations to establish diagnoses.	professional tasks from an evidence-based medicine perspective. **AI GPC-4.2** Knows indications and contraindications for prescribing instrumental, functional, and laboratory diagnostic methods; potential complications during examinations; and emergency management/prevention measures. **AI GPC-4.3** Interprets results of common instrumental, laboratory, and functional diagnostic methods, including thermometry, to identify pathological processes. **AI GPC-4.4** Masters methods of general clinical examination for patients of all age groups. **AI GPC-4.5** Formulates preliminary and clinical diagnoses according to ICD classification.	interpretation of the results of the most common methods of instrumental, laboratory and functional diagnostics; methods of general clinical examination of the patient; principles of formulating a preliminary diagnosis and clinical diagnosis in the clinic of internal medicine according to the ICD	prescribe instrumental, functional and laboratory examination methods; interpret the results of instrumental, laboratory and functional diagnostic methods; conduct a clinical examination of the patient; formulate a preliminary diagnosis and clinical diagnosis to the ICD	to compare the results of additional methods of examination (instrumental, laboratory and functional diagnostics) to identify pathological processes; methods of general clinical examination of a patient of different age; formulation of a preliminary diagnosis and clinical diagnosis according to the ICD, taking into account the owl
5	**GPC-7.** Capable of prescribing treatment and monitoring its effectiveness and safety.	**AI GPC-7.1** Selects pharmaceutical agents based on comprehensive pharmacokinetic and pharmacodynamic characteristics for treating patients with various nosological forms in outpatient and inpatient settings. **AI GPC-7.2** Determines the optimal minimum of most effective medications, utilizing convenient administration methods.	Principles of drug selection according to the totality of its pharmacokinetic and pharmacodynamic characteristics for the treatment of patients with various diseases of internal organs; advantages of the selected drug and the preferred method of its use; main and side effects of drugs;	To select the optimal pharmaceutical agent (considering its pharmacokinetic and pharmacodynamic characteristics) and determine the preferred method of administration; To identify primary and side effects of medications used in hospital therapy, accounting for morphofunctionl	Ability to prescribe the optimal drug, to choose the preferred method of its use, taking into account morphofunctional features, physiological conditions and pathological processes in diseases of internal organs, possible drug interactions in the combined use of various drugs; ability to timely detection of side effects of drugs used in clinical pulmonology;

		AI GPC-7.3 Explains primary and side effects of medications, consequences of their combined use and food interactions, considering morphofunctional characteristics, physiological states, and pathological processes in the human body. **AI GPC-7.5** Accounts for morphofunctional characteristics, physiological states and pathological processes when selecting over-the-counter medications and other pharmacy products. **AI GPC-7.6** Analyzes potential drug interactions when combining various pharmaceutical agents. **AI GPC-7.7** Evaluates drug therapy effectiveness and safety using combined clinical-laboratory, instrumental, and other diagnostic methods.	morphofunctional features, physiological conditions and pathological processes in the patient's body when selecting a drug; results of possible drug interactions in the combined use of drugs in the treatment of patients with various diseases of the internal organs	characteristics, physiological states, and pathological processes of the human body; To choose over-the-counter medications and other pharmacy products considering physiological conditions and pathological processes in patients with internal medicine disorders; To account for potential drug interactions when combining multiple pharmaceutical agents in therapeutic practice; To evaluate the effectiveness and safety of pharmacotherapy using combined clinical-laboratory, instrumental, and other diagnostic methods in hospital-based internal medicine.	determination of the effectiveness and safety of drug therapy of internal diseases according to the totality of clinical and laboratory, instrumental and other diagnostic methods.
6	**GPC-11.** Capable of preparing and applying scientific, research-production,	**AI GPC 11.1.** Applies modern methodologies for data collection and processing, conducts statistical analysis of obtained data in the professional field,	Core Methodological Approaches. Fundamental methodologies for working with educational, scientific, reference, and medical literature (including online resources): information gathering and processing techniques; decision-support algorithms	Independently utilize educational, scientific, reference, and medical literature (including online sources) in hospital medicine: information retrieval and critical appraisal; statistical analysis and interpretation of clinical data for diagnostic/therapeutic decision-making	Systematic analysis of educational, scientific, and medical information (including online sources) through: information synthesis methodologies; proficiency in medical information systems and online resources

	project-related, organizational-managerial, and regulatory documentation within the healthcare system.	and interprets results to address professional tasks. **AI GPC-11.2.** Identifies and analyzes problematic situations, performs searches for and selects scientific, regulatory-legal, and organizational-administrative documentation aligned with defined objectives. **AI GPC-11.3.** Interprets and applies data from physical, chemical, mathematical, and other natural science concepts and methods to solve professional problems. **AI GPC-11.4.** Conducts applied research, analyzes information using historical methods, and prepares research publications. **AI GPC-11.5.** Analyzes and prepares medical accounting and reporting documentation, calculating qualitative and quantitative metrics used in professional practice.	and software for diagnostic therapeutic processes in hospital medicine; methods for data collection, storage, retrieval, processing, transformation, and dissemination in medical information systems; medical documentation practices; key statistical methods for clinical decision-making and their application in hospital internal medicine	Apply concepts and methods from physics, chemistry, mathematics, and other natural sciences to solve clinical problems in hospital practice	Medical documentation expertise: maintenance protocols, preparation of clinical records and reports. Scientific methods in hospital medicine: observation, description, measurement, experimentation. Quantitative analysis: calculation of clinical quality metrics and performance indicators
Professional competencies					
7	**PC-1.** Capable of providing urgent and emergency medical care	**AI PC-1.3.** Identifies conditions requiring emergency medical intervention **AI PC-1.4.** Provides emergency medical care to patients with life-threatening conditions	Clinical signs of conditions requiring emergency care in internal medicine: acute coronary syndrome, bronchial obstruction syndrome Protocols for emergency medical care	Recognize clinical signs of emergency conditions in internal medicine: acute coronary syndrome, bronchial obstruction syndrome Provide emergency care to therapeutic patients	Ability to diagnose and deliver emergency care in internal medicine for: • Acute coronary syndrome • Bronchial obstruction syndrome

			of therapeutic patients		
8	**PC-2.** Capable of collecting and analyzing patient complaints, medical history, and life history to establish a diagnosis	**AI PC -2.1.** Establishes rapport with the patient **AI PC -2.2.** Collects and prioritizes complaints, distinguishing between primary and secondary symptoms **AI PC -2.3.** Gathers and analyzes information about: disease onset, risk factors, symptom progression, disease course **AI PC -2.4.** Evaluates: timing of initial and subsequent medical visits, previous treatment scope, treatment efficacy **AI PC -2.5.** Collects and assesses life history information including: past illnesses, injuries and surgical procedures, family history, occupational history, epidemiological history	The method of collecting complaints (major, minor) of a patient with a therapeutic disease; the method of collecting the history of the disease (the timing of seeking medical help, the dynamics of symptoms, the volume of therapy and its effectiveness), life history, including risk factors, data on past diseases, injuries and surgical interventions, hereditary, occupational, epidemiological history.	Establish contact with the patient; collect complaints and medical history of the patient with pathology of internal organs, analyze the obtained data; determine risk factors of the existing disease in the patient; evaluate information on life history, paying special attention to comorbidities, hereditary, allergological, occupational, epidemiological anamnesis	The ability to establish contact and a compliant relationship with a patient with a disease of internal organs; to collect complaints (major, minor), medical history (onset, dynamics of symptoms, seeking medical help, characteristics and volume of therapy and its effectiveness), life history (risk factors, comorbidities, allergological, occupational, epidemiological history) of a therapeutic patient.
9	**PC-3.** Capable of performing physical examination of patients	**AI PC -3.1.** Performs complete physical examination (inspection, palpation, percussion, auscultation) and interprets findings **AI PC -3.2.** Justifies the necessity,	Methods of complete physical examination of a patient with internal organs disease (inspection, palpation, percussion, auscultation) and interpretation of its results;	Conduct a complete physical examination of a patient with a therapeutic disease (inspection, palpation, percussion, auscultation) and interpret its results;	Competency in: performing complete physical examination of patients with internal medicine disorders (inspection, palpation, percussion, auscultation) and interpreting findings

	and analyzing results of diagnostic tests to establish a diagnosis	scope, and sequence of diagnostic procedures (laboratory, instrumental) and referrals to specialists **AI PC -3.3.** Analyzes patient examination results and, when necessary, justifies and plans additional investigations **AI PC -3.4.** Interprets and analyzes: patient history data, laboratory and instrumental test results, specialist consultation reports. And when indicated, justifies and plans further diagnostic workup **AI PC -3.5.** Performs early diagnosis of internal medicine disorders. Establishes diagnoses according to the current International Statistical Classification of Diseases and Related Health Problems (ICD) **AI PC -3.6.** Conducts differential diagnosis between internal medicine disorders and other diseases	necessity, scope, order of diagnostic measures and indications for consultation of medical specialists; methods of analysis and comparison of obtained clinical and diagnostic results of therapeutic patient examination; indications for prescription of additional methods of examination (if necessary); principles of early diagnosis, main symptoms and syndromes of disease; principles of early diagnostics, main symptoms and syndromes of therapeutic patients.	determine the need, scope, order of diagnostic measures and indications for consultation of specialists; analyze and compare the obtained clinical and diagnostic results of examination of a patient with a disease of internal organs; determine indications for the appointment of additional methods of examination; Establish clinical diagnoses supported by identified syndromes/symptoms in accordance with the International Statistical Classification of Diseases and Related Health Problems (ICD); identify the symptoms and syndromes of therapeutic organs.	Referring patients for: diagnostic procedures (laboratory, instrumental). specialist consultations Analyzing and correlating clinical-diagnostic results in therapeutic diseases. Evaluating core clinical manifestations in hospital internal medicine practice. Establishing and justifying clinical diagnoses per the International Statistical Classification of Diseases and Related Health Problems (ICD). Conducting differential diagnosis between identified therapeutic pathology and other conditions

10	**PC-4.** Capable of determining indications for hospitalization and emergency (including specialized emergency) medical care	**AI PC -4.1.** Identifies medical indications for emergency care, including specialized emergency medical interventions **AI PC -4.2.** Directs the patient for specialized medical care in inpatient or day hospital conditions in the presence of medical indications in accordance with the current order of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care **AI PC -4.3.** Uses medical devices in accordance with the current orders of medical care, clinical recommendations (treatment protocols) on the provision of medical care, care taking into account the standards of medical care	Emergency Medical Care Indications Criteria for emergency (including specialized emergency) medical interventions in therapeutic practice Specialized Care Referral Criteria Indications for patient referral to: inpatient specialized care, day hospital facilities Medical Device Application Principles Utilization of medical devices in compliance with: current healthcare delivery regulations, clinical guidelines (treatment protocols), medical care standards in internal medicine practice	Determine medical indications for the provision of emergency, including emergency specialized medical care, to a patient with a therapeutic disease; determine medical indications for referral of a patient for specialized medical care in hospital or day care, principles of medical devices in accordance with the current orders of medical care, clinical recommendations (treatment protocols) in hospital therapy	Ability to determine medical indications for emergency, including specialized emergency medical care in therapy; ability to determine medical indications for referring a patient for specialized medical care in hospital or day care, principles of medical devices in accordance with the current order of medical care, clinical recommendations (treatment protocols) on issues of medical care for patients with therapeutic pathology.
11	**PC-5.** Able to prescribe treatment for patients	**AI PC -5.1.** Develops a patient-specific treatment plan considering: diagnosis. age, clinical presentation, complications. Comorbidities in compliance with: current healthcare delivery regulations, clinical guidelines (treatment protocols), medical care standards	Modern methods of use, mechanism of action, indications and contraindications to the prescription of drugs and medical devices for diseases of therapeutic profile	To make a treatment plan for a patient with therapeutic pathology taking into account the diagnosis, age, clinical picture of the disease in accordance with the current order of medical care,	Ability to develop an individualized treatment plan for a patient with therapeutic pathology taking into account the diagnosis, age, clinical picture of the disease in accordance with the current order of medical care, clinical recommendations

		AI PC -5.2. Prescribes medicines, medical devices and therapeutic nutrition, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current medical care procedures, clinical guidelines, taking into account the standards of medical care **AI PC -5.3.** Prescribes non-medication treatment, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current medical care procedures, clinical guidelines, taking into account the standards of medical care **AI PC -5.4.** Provides palliative medical treatment **AI PC -5.5.** Organizes personalized treatment of the patient, including pregnant women, elderly and elderly patients	(taking into account the diagnosis, age and clinical picture of the disease) in accordance with the current orders of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care in hospital therapy; non-medication treatment taking into account the diagnosis, age and clinical picture of the disease	clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care from the point of view of hospital therapy; to prescribe drugs, medical devices, non-medicament treatment for diseases of internal organs; to provide palliative care to patients with therapeutic diseases;	(treatment protocols) on the provision of medical care, taking into account the standards of medical care in hospital therapy; to prescribe non-medication treatment for diseases of internal organs; provide palliative care to therapeutic patients; organize personalized treatment of patients, including pregnant women, elderly and elderly patients with diseases of internal organs, in accordance with the current order of medical care, clinical recommendations (treatment protocols) on issues of medical care, taking into account the standards of medical care in hospital therapy

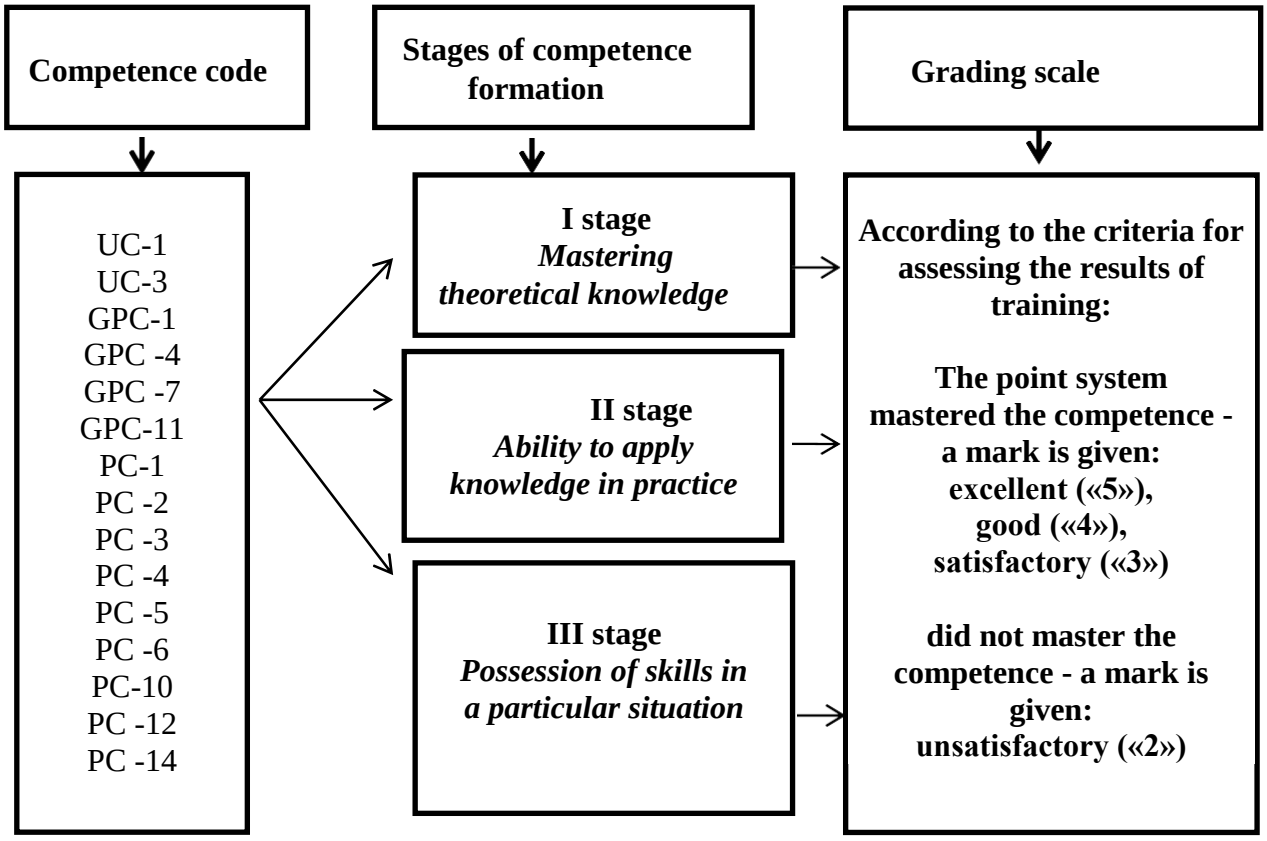
12	**PC-6.** Able to monitor the efficacy and safety of ongoing therapy	**AI PC -6.1.** Evaluates the effectiveness and safety of the use of medicines, medical devices, therapeutic nutrition and other treatment methods **AI PC -6.2.** Takes into account pharmacodynamics and pharmacokinetics of the main groups of medicines, prevents the development of adverse drug reactions and corrects them if they occur.	Information on the effectiveness and safety of drugs, medical devices, therapeutic nutrition and other methods of treatment in pulmonology; pharmacodynamics and pharmacokinetics of the main groups of drugs used in hospital therapy	Evaluate the effectiveness and safety of the use of drugs, medical devices, therapeutic nutrition and other methods of treatment of patients with therapeutic pathology; take into account when prescribing pharmacodynamics and pharmacokinetics of drugs used in hospital therapy	Ability to assess the effectiveness and safety of the use of drugs, medical devices, therapeutic nutrition and other methods of treatment of diseases of internal organs; ability to take into account when prescribing the peculiarities of pharmacodynamics and pharmacokinetics of drugs used in hospital therapy.
13	**PC -10.** Able to conduct and monitor the effectiveness of preventive work and healthy lifestyle activities	**AI PC -10.1.** Prescribes preventive measures for patients taking into account risk factors for prevention and early detection of diseases, including socially significant diseases	Forms and methods of educational work, preventive measures for patients taking into account risk factors for the prevention and early detection of pathology of internal organs, including socially significant diseases; risk factors for the development of diseases of therapeutic profile	Identify modifiable risk factors for disease development; timely prescribe preventive measures to patients taking into account risk factors for prevention and early detection of diseases of internal organs, including socially significant diseases in hospital therapy	Ability to conduct educational work, preventive activities for patients, taking into account the identified risk factors for the development of therapeutic diseases for the prevention and early detection of diseases of internal organs, including socially significant diseases.
14	**PC-12.** Ready to maintain medical records,	**AI PC -12.1.** Fills out medical records, including electronic records **AI PC -12.2.** Handles patients' personal data and information constituting medical confidentiality	Rules of registration of medical documentation (including in electronic form) in medical organizations of therapeutic profile;	Fill out medical documentation (including electronic) in therapeutic medical organizations; work with patients' personal data and information constituting medical confidentiality;	Ability to complete medical documentation (including electronic) in therapeutic medical organizations; ability to work with patients' personal data and information

	including electronic	**AI PC -12.3.** Prepares documents when patients are referred for hospitalization, consultation, sanatorium-resort treatment, medical and social expert assessment.	principles of work with personal data of patients and information constituting medical confidentiality	draw up documents when referring patients for hospitalization, consultation, sanatorium-resort treatment, medical and social expert assessment.	constituting medical confidentiality; to execute documents when referring patients with therapeutic diseases for hospitalization, consultation, sanatorium and resort treatment, medical and social expertise
15	**PC-14.** Able to participate in research and development activities	**AI PC -14.1.** Participates in scientific research **AI PC -14.2.** Analyzes medical information based on evidence-based medicine **AI PC -14.3.** Introduces new methods and techniques to practical health care to protect the health of the adult population	Methodology of scientific research; main directions of scientific research in the field of therapy; principles and methods of scientific research, medical statistics	Participate in scientific research, analyze medical information on the basis of evidence-based medicine, implement in practice new methods aimed at protecting the health of the adult population, including the prevention of the development of diseases of therapeutic profile	Ability to participate in scientific research; ability to analyze medical information on the basis of evidence-based medicine and introduce new methods aimed at protecting the health of the adult population into practice

Section of the discipline and code of the formed competence

№ Sl. No	Name of section	Code of the formed competence
1.	Pulmonology	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
2.	Cardiology	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
3.	Hematology	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
4.	Gastroenterology	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
5.	Nephrology	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
6.	Electrocardiography	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
7.	Practical skills	UC-1, 3; GPC-1, 4, 7, 11; PC-1, 2, 3, 4, 5, 6, PC -10, PC -12, PC -14
Total number of competencies – 15		

1.7. Stages of competence formation and assessment scale



1.8 Forms of training organization and types of control

Form of organization student training	Brief characterization
Lectures	Lecture material contains the key and most problematic issues of the discipline, the most significant in the training of a specialist.
Clinical practicum classes	They are intended for analyzing (consolidating) theoretical provisions and control over their assimilation with subsequent application of the acquired knowledge in the course of studying the topic.
Interactive	- interactive survey,

forms of learning	- creative assignments, - business game, - work in the Accreditation and Simulation Center, - discussions, - testing in the Moodle system.
Participation in scientific and research work of the department, student circle and conferences	- preparation of oral reports and poster presentations for presentation at a student circle or scientific conference; - writing theses and abstracts on the chosen scientific direction; - preparation of a literature review using academic, scientific, reference literature and Internet sources.
Types of control	**Brief description**
Ongoing control	Entrance control Verification of theoretical knowledge and practical skills formed during the study of previous disciplines. Input control of knowledge includes: - testing in the Moodle system (test of input control of knowledge), - solution of situational tasks and exercises. The results of the input control are systematized, analyzed and used by the pedagogical staff of the department to develop measures to improve and update the methods of teaching the discipline.
	Current control (initial, output) of knowledge includes: - checking the solution of situational tasks and exercises performed independently (extracurricular independent work); - assessment of theoretical material assimilation (oral questioning and computer testing); - testing in the Moodle system on all topics of the discipline (tests include theoretical and practical questions); - defense of the educational history of the disease - individual assignments (practical and theoretical) for each topic of the discipline studied.
Intermediate certification	Intermediate certification is represented by an examination at the end of XII semester. The exam includes the following stages: - testing in the Moodle system; - practical part - testing of practical skills and abilities: 1. in the Accreditation and Simulation Center; 2. in departments of therapeutic profile (at the patient's bedside, with interpretation of laboratory and instrumental indicators; - theoretical part - an oral answer to the examination ticket, consisting of 2 theoretical questions and 2 situational tasks on various sections of hospital therapy.

Instructional Note: Students gain theoretical knowledge through lectures, clinical practical sessions, and participation in departmental research activities. Learning occurs during patient rounds supervised by the department chair, professors, and associate professors, as well as through rotations in functional diagnostics units, radiology departments, and clinical/biochemical laboratories. Clinical practicums serve to reinforce and evaluate comprehension of course material. The curriculum incorporates interactive teaching methods including simulation-based training at the Accreditation-Simulation Center, case-based learning exercises, and business games. The daily application of theoretical knowledge follows logical cognitive progression, enabling students to develop practical clinical skills. Through patient management during clerkships and on-call duties, students refine fundamental competencies including physical examination techniques, interpretation of clinical and paraclinical

findings, formulation of ICD-compliant diagnoses, development of investigation and treatment plans, and adherence to principles of medical deontology and ethical practice.

Current control consists of the assessment of theoretical knowledge and practical skills developed by students during the class and includes: entrance control (held at the first session, designed to determine the level of preparedness of students and consists of testing on previously passed disciplines); initial (checking homework, testing, including computerized, frontal questioning (similar theoretical and test questions will be offered at the end-of-term control and interim certification), exit (solution of situational problems), exit control (solution of situational problems), and final control (testing (including in the Moodle system). Routine control includes control classes in 10, 11 and 12 semesters and consists of testing (including in the Moodle system), interview on the questions of the boundary control and situational tasks, defense of the educational history of the disease).

Intermediate certification includes an exam in 12 semester and consists of assessment of theoretical knowledge and practical skills developed by students during the discipline and includes: testing in the Moodle system, practical part (at the patient's bedside, with the interpretation of laboratory and instrumental indicators, as well as in the Accreditation and Simulation Center), and theoretical - an oral answer to the exam ticket, consisting of 2 theoretical questions and 2 situational tasks on various sections of hospital therapy.

2. STRUCTURE AND CONTENT OF THE DISCIPLINE

2.1 Scope of the discipline and types of academic work

Types of academic work	Total hours	Semesters		
		10	11	12
Lectures	66	14	38	14
Clinical practical classes	150	34	58	58
Independent work of students	108	24	48	36
Exam	36	-	-	36
Total labor input in hours	360	72	288	
Total labor intensity in credit units	10	2	8	

2.2 Thematic plan of lectures and their brief content

№ Sl. No	Topics of lectures and their brief content	Codes of formed competences	Labor intensity (hours)
1.	**Diagnosis and treatment of anemias.** Iron deficiency anemia. Etiology. Pathogenesis. Criteria for diagnosis of iron deficiency anemia, principles of treatment. Modern iron preparations, indications for parenteral iron preparations and hemotransfusions. Prevention, diet. B12-deficiency anemia. Etiology, pathogenesis, clinic, blood and bone marrow picture. Treatment of B12-deficiency anemia, maintenance therapy. Folic-deficiency anemia. Etiology, pathogenesis, clinic. Treatment. General clinical and laboratory signs of hemolysis. Differential diagnosis between intracellular and intravascular hemolysis. Classification of hemolytic anemias. Hereditary hemolytic anemias. Acquired hemolytic anemias. Autoimmune hemolytic anemias (types of antibodies, clinic, diagnosis, treatment). Marchiafava-Micheli disease and other hemoglobinuria.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
2.	**Acute and chronic leukemias (Part I).** The concept of tumor progression (according to A. I. Vorobyov, 1968) Acute leukemia. Etiology. Pathogenesis. Classification. Clinic. Diagnostic criteria. Clinical features and diagnosis of certain forms of acute leukemia. Neuroleukemia. Principles and stages of treatment. Clinical fundamentals of cytostatic therapy. Classification of cytostatic drugs. Treatment of acute lymphoblastic leukemia. Treatment of acute non-lymphoblastic (myeloid) leukemias. Treatment of acute promyelocytic leukemia. Low-percentage leukemia.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
3.	**Acute and chronic leukemias (Part II).** Chronic lymphocytic leukemia. Etiology, pathogenesis, clinic. The picture of blood and bone marrow. Diagnostic criteria. Modern classifications. Complications. Treatment of chronic lymphocytic leukemia and its complications. Chronic myeloid leukemia. Etiology. Pathogenesis. Clinic. The picture of blood and bone marrow. Cytogenetic studies. Diagnostic criteria. Stages of chronic myeloid leukemia. Treatment of chronic myeloid leukemia. The concept of paraproteinemic hemoblastosis. Multiple myeloma. Etiology. Pathogenesis. Clinic. Modern classifications. Diagnostics. Pathogenetic treatment. Symptomatic therapy.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
4.	**Hemorrhagic diseases and syndromes.** Types of bleeding (according to Z.S. Barkagan). Hemophilia. Etiology. Pathogenesis. Inheritance. Classification (types of hemophilia, severity). Clinic. Diagnostics. Treatment of hemophilia A, B and C (in historical aspect and modern treatment).	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2

	Autoimmune thrombocytopenic purpura. Etiology. Pathogenesis. Clinic. Diagnostics. Treatment. Thrombocytopathies. Etiology. Pathogenesis. Clinic. Diagnostics. Treatment. Willebrand's disease. Etiology. Pathogenesis. Clinic. Diagnostics. Treatment. Hemorrhagic vasculitis. Etiology. Pathogenesis. Clinic. Diagnostics. Treatment. Randu-Osler's disease.		
5.	**Chronic pulmonary heart disease.** Definition of chronic pulmonary heart disease (CHL). Etiology, pathogenesis, classification. The Savitsky–Euler–Liljestrand reflex. Pathomorphology, clinical picture of CHL. A complex of symptoms caused by respiratory failure. Clinical signs of right ventricular hypertrophy. Clinical signs of pulmonary hypertension. Clinical signs of decompensated pulmonary heart. Instrumental research methods. ECG – signs of a pulmonary heart according to Widimsky, Sokolov – Lyon. Echocardiography. Chest X-ray. Radionuclide ventriculography. Investigation of the function of external respiration. Laboratory data. The examination program. An example of a diagnosis formulation. Treatment of the underlying disease that causes the development of pulmonary hypertension. Oxygen therapy. The use of peripheral vasodilators. Anticoagulant therapy. Treatment with diuretics. Cardiac glycosides – indications for use. Treatment of secondary erythrocytosis. The use of glucocorticoids. Surgical treatment.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
6.	**Pleurisy.** Definition. The structure of the pleura. Etiology, pathogenesis of infectious and non-infectious pleurisy, classification. The clinical picture of dry (fibrinous) pleurisy. Features of various localities of dry pleurisy. Laboratory data and instrumental studies. Differential diagnosis. Clinic of exudative pleurisy. Laboratory and instrumental research methods, including X-ray and ultrasound. Indications and methods of thoracoscopy. Differential diagnosis of exudate and transudate. Features of tuberculous, parapneumonic pleurisy. Exudative pleurisy of fungal, parasitic, and tumor etiology. The examination program. Etiological treatment. The use of anti-inflammatory and desensitizing agents. Exudate evacuation. Detoxification and correction of protein metabolism disorders. Physical therapy, physical therapy, massage. Rehabilitation of patients with pleurisy.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2

7.	**Chronic renal failure and acute renal injury.** Clinical definition. Causes of chronic renal failure and acute renal injury. Pathogenesis. Clinical picture, classification. Diagnostics. Treatment. Hemodialysis. Forecast. Prevention of acute renal injury	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
8.	**Bronchial asthma (part I).** Epidemiology, definition of bronchial asthma at the present stage, etiology, pathogenesis, risk factors, classification by clinical forms of the disease, severity, level of control, diagnostic criteria, modern methods of diagnosing the disease, identification of signs of bronchial hyperactivity (laboratory, functional, endoscopic), differential diagnosis of bronchial obstruction syndrome.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
9.	**Bronchial asthma (part II).** Pharmacotherapy of bronchial asthma: control agents and emergency medications, a step-by-step approach to treatment. Achieving disease control (GINA criteria). Asthmatic status: definition, diagnostic criteria, emergency care. Features of the clinical course and treatment of bronchial asthma in pregnant women. Prevention of bronchial asthma.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
10.	**Chronic obstructive pulmonary disease.** Chronic obstructive pulmonary disease. The lecture highlights the issues of epidemiology, etiology, risk factors, pathogenesis, and classification of chronic obstructive pulmonary disease (COPD). The role of fibroendobronchoscopic research methods in the diagnosis of COPD. Modern methods of treatment depending on the phenotype of COPD, severity (GOLD). Prevention of infectious diseases of the respiratory tract.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
11.	**Pneumonia.** The lecture highlights the issues of definition, epidemiology, etiology, pathogenesis, risk factors, classification, features of the course of pneumonia, diagnostic criteria at the present stage, and severity. Treatment: indications for hospitalization, approaches to prescribing antibacterial therapy, choice of initial antibacterial therapy, step-by-step approach to antibacterial therapy, differentiated treatment of viral infections of the respiratory tract, new antiviral agents. Complications of pneumonia, prevention of infectious diseases of the respiratory tract.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
12.	**Differential diagnosis of pulmonary infiltration syndrome.** The lecture defines pulmonary infiltration. The algorithm of differential diagnosis in the syndrome of inflammatory lung tissue compaction is given. A differential diagnosis of pneumonia, lung cancer, infiltrative tuberculosis, pulmonary embolism, bronchiectasis, and lung abscess is performed.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2

13.	**Differential diagnosis of disseminated lung diseases.** The issues of diagnostic criteria of pulmonary dissemination (clinical, radiological, morphological), differential diagnosis are considered. The pathophysiological features of lung dissemination, progressive respiratory failure, criteria for the diagnosis of the disease at the present stage, classification (idiopathic pulmonary fibrosis, exogenous allergic alveolitis, sarcoidosis, etc.) are emphasized.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
14.	**Differential diagnosis of urinary syndrome.** The lecture describes the diseases accompanied by urinary syndrome. Acute and chronic pyelonephritis. Acute tubulointerstitial nephritis. Acute glomerulonephritis. Chronic glomerulonephritis. The algorithm of differential diagnosis in urinary syndrome is given. Principles of treatment and prevention.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
15.	**Neurocirculatory dystonia.** The lecture highlights the pathogenesis of neurocirculatory dystonia and its role in the development of hypertension. Modern methods of diagnosis and treatment of arterial hypertension, depending on their	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
16.	**Myocardial infarction.** The lecture discusses the issues of epidemiology, definition, etiology, risk factors, and pathogenesis of myocardial infarction at the present stage. Diagnostic criteria, classification, differential diagnosis. The concept of acute coronary syndrome, diagnostic criteria. Features of the clinical picture and course of myocardial infarction, depending on its location. The role of ECG, laboratory and instrumental research methods in the diagnosis of myocardial infarction. Medical and surgical methods of coronary artery disease treatment. Complications of myocardial infarction, emergency care at pre-hospital and hospital stages. Rehabilitation and preventive measures.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
17.	**Differential diagnosis of cardialgia.** The lecture highlights in detail the mechanism of development of cardialgic syndrome, the features of pain of coronarogenic and non-coronarogenic genesis. Diagnostic criteria for coronary heart disease, angina pectoris, and symptomatic cardialgia. Classification, differential diagnostic criteria of cardialgias of various genesis. The role of functional, laboratory and instrumental research methods in the diagnosis of cardialgia.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
18.	**Differential diagnosis and treatment of arterial hypertension (part I).** The lecture provides a classification of arterial hypertension at the present stage. Diagnostic criteria, classification of hypertension, and diagnostic algorithm for hypertension syndrome are defined. Damage to target organs in arterial hypertension.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2

	The differential diagnosis of hypertension with symptomatic hypertension is carried out in detail. The features of arterial hypertension in various types of hypertension (hypertension and symptomatic hypertension) are emphasized.		
19.	**Differential diagnosis and treatment of arterial hypertension (part II).** Treatment of hypertension and symptomatic hypertension. The main groups of antihypertensive drugs. The concept and classification of hypertensive crises. Clinic of hypertensive crises in hypertensive disease and symptomatic arterial hypertension. Treatment of hypertensive crises. Complications of hypertensive crises.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
20.	**Differential diagnosis of non-coronary myocardial diseases.** The lecture discusses the definition, etiology, pathogenesis, classification and diagnostic criteria of cardiomyopathies, myocarditis, and myocardiodystrophy. Differential diagnosis of non-coronary myocardial diseases. Principles of treatment, rehabilitation, and prevention.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
21.	**Differential diagnosis of rhythm and conduction disorders.** The lecture reveals the main aspects of the concept of arrhythmia, the structure of the cardiac conduction system, and classification issues. The basic principles of differential diagnosis of arrhythmias are given, according to clinical syndromes and ECG diagnostic data. The principles of treatment based on the classification of antiarrhythmic drugs are considered. Modern innovative methods of treatment of sinus node weakness syndrome, WPW syndrome, supraventricular tachycardia, atrial fibrillation, and prevention are given.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
22.	**Features of the course and treatment of cardiovascular diseases in elderly patients.** The lecture highlights the urgency of the problem in connection with the frequent access of this category of patients to medical care, age-related features of the cardiovascular system, polymorbidity and frequent atypicity of acute diseases and chronic processes. The features of ECG in the elderly in norm and pathology, the clinical picture and diagnosis of hypertension, myocardial infarction and chronic coronary heart disease are also considered. The issues of medical and surgical treatment of cardiovascular pathology in elderly patients are discussed in detail.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
23.	**Differential diagnosis of anemia syndrome.** The lecture defines anemia and provides modern classifications of anemia. A diagnostic algorithm is given for diseases accompanied by anemia syndrome. The characteristics of the most common anemias are iron deficiency, B12 deficiency, folate deficiency, posthemorrhagic, iron–distributing sideroachrestic,	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2

	aplastic, hemolytic, anemia of chronic diseases.		
24.	**Differential diagnosis of hemolytic anemia.** The lecture highlights the etiology, pathogenesis, clinic, clinical and laboratory diagnostics of hemolytic anemia. Differential diagnosis of intracellular and intravascular hemolysis. Differential diagnosis of hereditary and acquired hemolytic anemia.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
25.	**Aplastic anemia:** etiology, pathogenesis, modern methods of diagnosis and treatment. The lecture reveals the etiology, pathogenesis, clinic, diagnosis, diagnostic criteria, differential diagnosis, modern methods of pathogenetic and symptomatic treatment of aplastic anemia.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
26.	**Chronic myeloid leukemia.** The lecture details the etiopathogenesis of chronic myeloid leukemia and the difficulties of diagnosis. Special attention is paid to laboratory methods and morphological diagnosis of leukemia. The picture of blood and bone marrow. Cytogenetic studies. Diagnostic criteria. Stages of chronic myeloid leukemia. Treatment of chronic myeloid leukemia.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
27.	**Differential diagnosis of erythrocytosis.** The lecture defines erythrocytosis, etiology and pathogenesis. The modern classification of erythrocytoses is given. Clinical criteria for diagnosis, classification and treatment of true polycythemia. Absolute symptomatic erythrocytosis. Relative hemoconcentration erythrocytoses. The lecture discusses the algorithm of differential diagnosis of erythrocytosis, differential diagnostic criteria of erythrocytosis. Treatment, prevention. Complications.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
28.	**Chronic lymphocytic leukemia.** The lecture highlights the etiology, pathogenesis, and clinical manifestations of chronic lymphocytic leukemia. The picture of blood and bone marrow. Diagnostic criteria. Modern classifications. Differential diagnosis. Complications. Treatment of chronic lymphocytic leukemia and its complications	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
29.	**Multiple myeloma. E**tiology, pathogenesis, clinical and laboratory picture, diagnosis of multiple myeloma, differential diagnosis. Modern classifications of multiple myeloma. Pathogenetic and symptomatic treatment of multiple myeloma.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
30.	**Differential diagnosis of hemorrhagic syndrome.** The lecture highlights the pathogenesis of hemorrhagic syndrome and the types of bleeding. The issues of differential diagnosis of diseases associated with hemorrhagic syndrome (hemophilia, thrombocytopenia, hemorrhagic vasculitis)	UC-1, 3 GPC – 1,4,7,11	2

	are highlighted. Methods of diagnosis and treatment.	PC-1,2,3,4,5,6,10,12,14	
31.	**Differential diagnosis and treatment of lymphadenopathies.** The lecture highlights the etiology and pathogenesis of lymphadenopathies. Classification of diseases accompanied by lymphadenopathy. The importance of the morphological diagnostic method. Indications for splenectomy.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	2
32.	**Gastroesophageal reflux disease.** The lecture defines the relevance of gastroesophageal reflux disease at the present stage, discusses issues of epidemiology, definition, etiology, and pathogenesis. Classification and diagnostic criteria of gastroesophageal reflux disease. Differential diagnosis. Modern methods of diagnosis, treatment, rehabilitation and prevention.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	
33.	**Differential diagnosis of inflammatory intestinal diseases.** The lecture provides a differential diagnosis of Crohn's disease, ulcerative colitis, pseudomembranous, ischemic and other colitis, taking into account their diagnostic criteria. Modern methods of diagnosis, treatment and prevention are considered.	UC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10,12,14	
Total			**66**

2.3. The thematic plan of clinical practical classes and their content

№ topic Sl. No	Naming of clinical practice topics	Content of clinical practice topics	Competence codes and indicators of their achievement	Types of control	Labor intensity (hour)
10 semester					
1	**Iron deficiency, vitamin B-12 deficiency, folate deficiency,**	**Theoretical part:** Etiological factors leading to the development of anemia. Pathogenesis. Classification. Clinical manifestations. Complications. Indications and methods of hemotransfusion. Methods of instrumental and laboratory diagnostics. The main criteria for the differential diagnosis of anemia. Treatment and prevention. **Practical part:** analysis of a thematic patient, supervision of patients, solving	UC-1: AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3: AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7.	– homework review – front-end survey (unwritten or written) –testing, including	3,4

	aplastic, hemolytic anemia	situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC -14: AI 14.1-14.3	computer-based situational – solving situational problems. – practical skills testing	
2	**Acute and chronic leukemia**	**Theoretical part:** Etiology and pathogenesis of hemoblastoses. Classification of acute and chronic leukemias. Clinical manifestations. Diagnostic criteria. Complications. Treatment protocols. Prevention and treatment of chemotherapy complications. **Practical part:** analysis of a thematic patient, patient supervision, demonstration of a sternal puncture, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC -14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	3,4
3	**Multiple myeloma. True polycythemia, erythrocytosis**	**Theoretical part:** Etiology and pathogenesis of multiple myeloma, polycythemia and erythrocytosis. Classification. Clinical manifestations. Basic diagnostic criteria. Complications. Treatment. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical	3,4

			PC-14: AI 14.1-14.3	skills testing	
4	**Hemorrhagic diathesis: hemophilia, Willebrand's disease, thrombocytopenic purpura, Randu-Osler's disease, hemorrhagic vasculitis**	**Theoretical part:** Etiology and pathogenesis of hemorrhagic diathesis. Classification. Clinical manifestations. Basic diagnostic criteria. Complications. Emergency care for bleeding. Treatment and prevention. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	3,4
5	**Pleurisy. Chronic pulmonary heart disease**	**Theoretical part:** Etiology and pathogenesis of pleurisy, chronic pulmonary heart disease. Classification. Clinical manifestations. Basic diagnostic criteria. Complications. Treatment and prevention **Practical part:** analysis of thematic patients, patient supervision, demonstration of pleural puncture, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	3,4
6	**Chronic pyelonephritis, chronic renal failure**	**Theoretical part:** Etiology and pathogenesis of chronic pyelonephritis, CRF. Classification. Clinical manifestations. Basic diagnostic criteria. Indications for renal replacement therapy. Complications. Treatment and prevention. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, visiting the hemodialysis department,	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2.,	– homework review – front-end survey (unwritten or written)	3,4

		registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– testing, including computer-based situational – solving situational problems. – practical skills testing	
7	**Congenital and acquired heart defects**	**Theoretical part:** Etiology and pathogenesis of heart defects. Classification. Clinical manifestations. Basic diagnostic criteria. Prevention of the disease. Indications for surgical treatment. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	3,4
8	**Myocarditis. Cardiomyopathy**	**Theoretical part:** Etiology and pathogenesis of myocarditis, cardiomyopathies. Classification. Clinical manifestations. Basic diagnostic criteria. Differential diagnosis. Treatment and prevention**.** **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical	2,9

			PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	skills testing	
9	**Cardiac rhythm and conduction disorders**	**Theoretical part:** Etiology and pathogenesis of cardiac rhythm and conduction disorders. Classification. Clinical manifestations. Basic diagnostic criteria. Differential diagnosis. Treatment and prevention. Classification of antiarrhythmic drugs. Indications for surgical treatment. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
10	**Gout, ankylosing spondylitis, primary osteoarthritis, rheumatoid arthritis. Control session**	**Theoretical part:** Etiology and pathogenesis of joint syndrome. Classification. Clinical manifestations. Basic diagnostic criteria. Differential diagnosis. Treatment and prevention. Classification of NSAIDs. Indications for endoprosthetics. **Practical part:** analysis of thematic patients, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care. Verification of competence acquisition (testing in the Moodle system, interview on control issues and situational tasks, protection of educational medical history).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
11 semester					
11	**Differential diagnosis and treatment of bronchial**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of bronchial asthma (BA). Classification. Clinical and pathogenetic variants of asthma. Clinical manifestations, diagnostic criteria, differential diagnosis. Treatment of asthma depends on the severity and level of control, a step-by-step approach to treatment. The AST test. Steroid-dependent and	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3	– homework review – front-end survey (unwritten or written)	2,9

	patency disorders. Bronchial asthma	steroid-resistant asthma, diagnostic criteria. Complications (diagnostic criteria, treatment, emergency care). Prevention of the disease (primary, secondary, tertiary). **Practical part:** analysis of a thematic patient, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, Federal clinical guidelines for diagnosis and treatment, standard of specialized medical care, GINA, participation in the work of the spirography cabinet, performing tasks on sample, duty report, preparation of conclusions on spirograms, peak flowmetry data (methodology, diagnostic significance).	GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– testing, including computer-based situational – solving situational problems. – practical skills testing	
12	**Differential diagnosis and treatment of bronchial patency disorders. Chronic obstructive pulmonary disease**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of chronic obstructive pulmonary disease (COPD). Classification. Clinical manifestations. The main diagnostic criteria for COPD. The CAT-test. COPD phenotypes, diagnostic criteria. Differential diagnosis. Complications. Treatment and prevention. **Practical part:** analysis of thematic patients with various COPD phenotypes. supervision of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, Federal recommendations for the diagnosis and treatment of COPD, standard of specialized medical care, GOLD, participation in the work of spirography rooms, bronchoscopy, sample assignments. Making conclusions on spirograms, with an assessment of the bronchodilation test (methodology, diagnostic value).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
13	**Differential diagnosis and treatment of focal lung diseases.**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors for pneumonia. Classification. Clinical manifestations, features of the clinical course depending on the pathogen. Basic diagnostic criteria. The severity of pneumonia. Differential diagnosis. Indications for hospitalization. Treatment (empirical approach to the choice of an antibacterial drug, etiological; step-by-step therapy, criteria for the effectiveness of therapy).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2.,	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational	2,9

	Pneumonia	Features of the clinic, diagnosis and treatment of pneumonia on the background of influenza, acute respiratory viral infections. Criteria for the diagnosis of prolonged pneumonia. Prevention of infectious diseases of the bronchopulmonary system. **Practical part:** analysis of a thematic patient, supervision of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, a bronchoconstrictor, a clinical and biochemical laboratory, performance of sample assignments, a report on on duty, making conclusions on archival radiographs.	7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– solving situational problems. – practical skills testing	
14	**Differential diagnosis and treatment of focal lung diseases. Complications of pneumonia. Suppurative lung diseases**	**Theoretical part:** Risk factors, classification, clinical and laboratory, functional, radiological criteria for the diagnosis of complicated pneumonia. Epidemiology, etiology, pathogenesis, classification, clinical manifestations of lung abscess and gangrene, tuberculosis, lung cancer, PE, bronchiectasis, cystic fibrosis, eosinophilic infiltrate. Basic diagnostic criteria. Complications. Treatment and prevention. Indications for surgical treatment. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, a bronchoconstrictor, a clinical and biochemical laboratory, performing tasks on sample, duty report. making conclusions on archival radiographs.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
15	**Differential diagnosis of pleural effusion**	**Theoretical part:** Epidemiology, etiology, risk factors, classification, diagnostic criteria for pleurisy. Features of pleural effusion in pneumonia, tuberculosis, lung cancer, PE, pleural mesothelioma, pleural carcinomatosis, circulatory insufficiency, diffuse connective tissue diseases, and parasitic infestations. Basic diagnostic criteria, transudate and exudate. Complications. Treatment and prevention of these diseases. Indications for surgical treatment.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7.	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational	2,9

		Practical part: analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, a bronchoconstrictor, a clinical and biochemical laboratory, performing tasks on sample, duty report. making conclusions on archival radiographs.	GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– solving situational problems. – practical skills testing	
16	**Differential diagnosis and treatment of disseminated lung diseases**	**Theoretical part:** Epidemiology, etiology, risk factors, classification, diagnostic criteria for DM: sarcoidosis, exogenous allergic alveolitis, idiopathic pulmonary fibrosis, pneumoconiosis, disseminated tuberculosis, histiocytosis, pulmonary alveolar proteinosis, etc. The main differential diagnostic criteria of these diseases. Complications. Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, a bronchoconstrictor, a clinical and biochemical laboratory, performing tasks on a sample, a report on duty, and the preparation of conclusions on archival radiographs with disseminated lung diseases.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

17	**Differential diagnosis of pulmonary heart failure. Pulmonary heart. Control session on pulmonology**	**Theoretical part:** Epidemiology, etiology, risk factors, classification, criteria for diagnosis of pulmonary heart failure. The main diagnostic criteria of acute, subacute and chronic pulmonary heart, differential diagnosis. Complications. Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, a bronchoconstrictor, a clinical and biochemical laboratory, performing tasks on sample, duty report, preparation of conclusions on ECG, EchoCG. Assessment of competence acquisition (testing, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
18	**Differential diagnosis of cardiac murmurs and cardiomegaly Chronic rheumatic heart disease (CRD). Acquired mitral heart defects**	**Theoretical part:** Definition of HRBS, etiology and pathogenesis. Classification. Clinical manifestations. Basic diagnostic criteria, differential diagnosis. Treatment and prevention of the disease, outcomes. Causes of acquired heart defects. Hemodynamics in mitral valve stenosis and insufficiency, clinical manifestations. Diagnostic criteria. Differential diagnosis. Complications. Treatment and prevention of these diseases. Indications for surgical treatment. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the EchoCG cabinet, clinical and biochemical laboratory, completing tasks based on a sample. Duty report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
19	**Differential diagnosis of cardiac**	**Theoretical part:** Hemodynamics in aortic valve insufficiency, aortic stenosis. CHD: classification, diagnostic criteria, clinical manifestations, diagnostic criteria.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3	– homework review – front-end survey (unwritten or written)	

	murmurs and cardiomegaly. Acquired aortic heart defects. Congenital heart defects (CHD)	Differential diagnosis of acquired and congenital heart defects. Complications. Treatment and prevention of these diseases. Indications for surgical treatment. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference materials, standard of specialized medical care, participation in the work of the EchoCG cabinet, performing tasks according to a sample. Duty report.	GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
20	**Differential diagnosis of heart pain. Coronary heart disease (CHD). Angina pectoris. Cardialgia**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of coronary heart disease. Classification of coronary heart disease. Definition and classification of angina pectoris, symptomatic cardialgia. Clinical manifestations. The main clinical, functional and laboratory diagnostic criteria. Differential diagnostic signs of recurrent chest pain in cardiac pathology, pathology of the respiratory system, musculoskeletal system, gastrointestinal tract, nervous system. Principles of differentiated therapy of urgent conditions characterized by acute chest pain. Treatment. Preventive and rehabilitative measures for these diseases. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, an ECG cabinet, sample assignments, duty report, ECG report, daily ECG monitoring.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
21	**Differential diagnosis of heart pain.**	**Theoretical part:** Epidemiology, etiology, pathogenesis, risk factors, classification and severity classes of MI. Clinic. ECG criteria depending on the MI period. Early and late complications, diagnostic criteria.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1.	– homework review – front-end survey (unwritten or written)	

	Myocardial infarction (MI). Complications of myocardial infarction	Diagnostics. Differential diagnostic signs of stable forms of coronary artery disease, acute coronary syndrome without elevation of the ST segment, myocardial infarction with elevation of the ST segment. Differential diagnostic signs of chest pain in myocardial infarction, prolonged angina attack, pulmonary embolism, exfoliating aortic aneurysm, fibrinous pericarditis, bronchopulmonary pathology. Treatment, emergency care. Algorithm of emergency therapy in acute coronary syndrome. Indications for surgical treatment. Rehabilitation and prevention of coronary heart disease. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, an ECG cabinet, performing tasks on the sample. Duty report, ECG report, daily ECG monitoring.	GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
22	**Differential diagnosis of arterial hypertension. Hypertension (GB)**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of GB. Classification. Clinical manifestations. Basic diagnostic criteria. Differential diagnosis. Complications (diagnostic criteria, emergency care, prevention). Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ECG cabinet, sample assignments, duty report. Making an ECG report, daily ECG monitoring.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
23	**Differential diagnosis of arterial**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of symptomatic arterial hypertension. Classification. Clinical manifestations. Basic diagnostic criteria.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1.	– homework review – front-end survey	

	hypertension. Symptomatic arterial hypertension	Differential diagnosis. Complications (diagnostic criteria, emergency care, prevention). Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ECG cabinet, performance of tasks according to the sample, the report on duty. Making an ECG report, daily ECG monitoring.	GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	(unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
24	**Differential diagnosis of cardiac rhythm and conduction disorders**	**Theoretical part:** Classification of rhythm and conduction disorders. ECG-signs of sinus tachycardia and bradycardia, supraventricular and ventricular extrasystole, supraventricular tachycardia, atrial fibrillation and flutter, sinus node weakness syndrome. ECG-signs of conduction disturbances (atrioventricular and intraventricular blockages). Drug and non-drug treatment, prevention. Indications for temporary pacing. Indications for implantation of pacemakers. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ECG cabinet, performing tasks according to a sample. Duty report. Making an ECG report, daily ECG monitoring.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
25	**Differential diagnosis and treatment of non-coronary myocardial lesions**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of non-coronary myocardial lesions (myocarditis, cardiomyopathy, myocardiodystrophy). Classification, clinical manifestations, and basic diagnostic criteria of these diseases. Differential diagnostic signs of myocarditis, primary and secondary (against the background of intoxication, metabolic, endocrine, gastroenterological) cardiomyopathies. Indications for a myocardial biopsy. Principles of differentiated therapy of non- coronary diseases of the myocardium. Complications (diagnostic criteria, emergency care, prevention). Treatment, prevention and rehabilitation measures.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational	2,9

		Practical part: analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ECG cabinet, performing tasks on sample, duty report. Making conclusions on EchoCG, ECG, and daily ECG monitoring.	PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	problems. – practical skills testing	
26	**Differential diagnosis and treatment of joint diseases**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of rheumatoid arthritis, ankylosing spondylitis, osteoarthritis, infectious arthritis, reactive arthritis, joint damage in gout, psoriasis, tuberculosis, inflammatory bowel diseases, etc. Classification, clinical manifestations, basic differential diagnostic criteria of these diseases. Complications (diagnostic criteria, prevention). Principles of differentiated therapy of diseases accompanied by the appearance of joint syndrome. Emergency treatment of acute gout attack. Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, performing tasks according to a sample, duty report. Making an opinion on joint radiographs and immunological diagnostic methods.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

27	**Differential diagnosis and treatment of diffuse connective tissue diseases. Cardiology control session**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of systemic lupus erythematosus, systemic scleroderma, dermatomyositis, Sjogren's disease, polyarteritis nodosa. Classification, criteria of activity, clinical manifestations, basic differential diagnostic criteria of these diseases. Complications (diagnostic criteria, prevention). Treatment, prevention and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an X-ray room, performing tasks according to a sample, duty report. Making conclusions on joint radiographs, immunological diagnostic methods, ECG, EchoCG. Assessment of competence acquisition (testing, interview on neutral issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
28	**Differential diagnosis of urinary syndrome. Chronic pyelonephritis**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of chronic pyelonephritis. Classification. Clinical manifestations and complications. Diagnostic criteria. Differential diagnosis. Clinical pharmacology of antibacterial agents used for urinary tract infection. Treatment, preventive and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the ultrasound room, clinical and biochemical laboratory, sample assignments, duty report, and X-ray report (excretory urography).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
29	**Differential diagnosis of**	**Theoretical part:** Epidemiology, etiology and pathogenesis of diseases manifested by urinary syndrome. Epidemiology,	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5	– homework review	

	urinary syndrome. Chronic glomerulonephritis. Differential diagnosis of nephrotic syndrome	etiology and pathogenesis of chronic glomerulonephritis. Classification, clinical manifestations, diagnostic criteria, differential diagnosis, complications. Nephrotic syndrome (diagnostic criteria, diseases manifested by nephrotic syndrome, complications). Differential diagnostic criteria of secondary nephropathies. Treatment, prevention and rehabilitation. Extracorporeal treatment methods. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the ultrasound room, clinical and biochemical laboratory, completing tasks according to a pattern, completing tasks according to a pattern. Duty report.	UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
30	**Acute and chronic renal failure. Chronic kidney disease. Control session**	**Theoretical part:** Epidemiology, etiology and pathogenesis of acute and chronic renal failure. Epidemiology, etiology and pathogenesis of chronic kidney disease. Classification, clinical manifestations, diagnostic criteria, differential diagnosis, complications. Treatment, prevention and rehabilitation. Extracorporeal treatment methods. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, work with handouts, handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the ultrasound room, clinical and biochemical laboratory, completing tasks according to a pattern, completing tasks according to a pattern. Duty report. Assessment of competence acquisition (testing in the Moodle system, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
		12 semester			
31	**Differential diagnosis and treatment of**	**Theoretical part**: Modern classification of anemic conditions. Epidemiology, etiology, pathogenesis and risk factors of iron deficiency, B12, folate deficiency anemia. Classification criteria, clinical manifestations, basic clinical and laboratory diagnostic criteria. Differential diagnosis. Indications and	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1.	– homework review – front-end survey (unwritten or written)	

	anemia syndrome. Iron deficiency anemia, B12, folate deficiency anemia	contraindications to hemotransfusions for various anemia. Treatment, prevention and rehabilitation. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Making a conclusion based on the results of the sternal punctate study.	GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
32	**Differential diagnosis and treatment of anemia syndrome. Hemolytic and aplastic anemia**	**Theoretical part:** Modern classification of hemolytic anemia (congenital, acquired). Epidemiology, etiology and pathogenesis of hemolytic and aplastic anemia. Classification criteria, clinical manifestations, basic clinical and laboratory diagnostic criteria. Differential diagnosis. Indications and contraindications to hemotransfusions for various anemia. Treatment, prevention and rehabilitation. Complications (diagnostic criteria, treatment). **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Making a conclusion based on the results of the sternal punctate study.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
33	**Differential diagnosis and treatment of hemoblastoses. Acute leukemia**	**Theoretical part:** Modern classification of hemoblastoses. The laws of tumor progression. Epidemiology, etiology and pathogenesis of acute leukemias. Classification criteria, clinical manifestations, basic clinical and laboratory-morphological diagnostic criteria. Differential diagnosis. Complications (diagnostic criteria, treatment). Principles of therapy, its stages (induction and consolidation of remission, prevention of neuroleukemia, treatment during remission). Therapy of individual variants of the disease. Complications of cytostatic therapy.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational	2,9

		Medical examination and rehabilitation of patients with acute leukemia. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Making a conclusion based on the results of the sternal punctate study.	PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– solving situational problems. – practical skills testing	
34	**Differential diagnosis and treatment of hemoblastosis and chronic lymphoproliferative diseases**	**Theoretical part:** Epidemiology, etiology and pathogenesis of chronic lymphocytic leukemia and multiple myeloma. Classification, clinical picture. The main syndromes, stages of the course. Clinical, laboratory, morphological, and radiological diagnostic criteria. Differential diagnosis. Forecast. Medical examination. The possibilities of modern therapy. Complications of treatment. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Making a conclusion based on the results of the sternal punctate study.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
35	**Differential diagnosis and treatment of hemoblastosis and chronic myeloproliferative diseases**	**Theoretical part:** Epidemiology, etiology and pathogenesis of chronic myeloid leukemia and true polycythemia. The clinical picture. The main clinical syndromes. Stages of the flow. Blast crisis (definition, criteria). Clinical, laboratory and morphological diagnostics. Symptomatic erythrocytosis (classification, diagnostic criteria). Complications. Clinical, laboratory and morphological diagnostic criteria. Differential diagnosis. The possibilities of modern therapy. Complications of treatment. Forecast.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational	2,9

		Practical part: analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Making a conclusion based on the results of the sternal punctate study.	PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– solving situational problems. – practical skills testing	
36	**Differential diagnosis and treatment of diseases manifested by hemorrhagic syndrome. Hematology control session**	**Theoretical part:** Classification of hemorrhagic diathesis. Types of bleeding. Epidemiology, etiology and pathogenesis of hemorrhagic diathesis: hemophilia, hemorrhagic vasculitis, Schönlein-Heinoch disease, DIC syndrome, Randu-Osler disease. The clinical picture. The main clinical syndromes. Stages of the flow. Clinical and laboratory diagnostic criteria. Differential diagnosis. Treatment. Complications. Forecast. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, preparation of a workbook, educational medical history, interpretation of laboratory and instrumental indicators, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of a clinical and biochemical laboratory, implementation of sample tasks. Assessment of competence acquisition (testing, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
37	**Differential diagnosis and treatment of abdominal pain syndrome. Chronic gastritis. Peptic ulcer disease**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of chronic gastritis and peptic ulcer disease. Classification. Clinical manifestations. Complications (diagnostic criteria, emergency care for urgent conditions). Methods and criteria of instrumental and laboratory diagnostics. Differentiating criteria for chronic gastritis, peptic ulcer of the stomach and duodenum, symptomatic erosions and ulcers. Clinical features of the course of peptic ulcer disease depending on the location of the ulcer. Treatment, preventive and rehabilitation measures. Indications for surgical treatment	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational	2,9

		Practical part: analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the office of the Federal State Medical Service, performing tasks according to a sample. Duty report.	PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	problems. – practical skills testing	
38	**Differential diagnosis and treatment of pancreatic diseases. Chronic pancreatitis**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of chronic pancreatitis. Classification. Clinical manifestations. Methods of instrumental and laboratory diagnostics. Diagnostic criteria, differential diagnosis. Complications. Treatment, preventive and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the office of the Federal State Medical Service, performing tasks according to a sample. Duty report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
39	**Differential diagnosis and treatment of diseases of the biliary tract. Chronic cholecystitis. Biliary dyskinesia**	**Theoretical part:** Etiological factors leading to the development of chronic cholecystitis, biliary dyskinesia. Pathogenesis. Classification. Clinical manifestations, diagnostic criteria. Complications (diagnostic criteria, emergency care for urgent conditions). Methods of instrumental and laboratory diagnostics. Differential diagnosis. Treatment, preventive and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of the office of the Federal State Medical Service, performing tasks according to a sample. Duty report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

40	**Differential diagnosis and treatment of diseases manifested by hepatomegaly, hepatolienal syndrome and jaundice. Chronic hepatitis**	**Theoretical part:** Epidemiology, etiology and pathogenesis of chronic hepatitis. Classification, clinical manifestations, basic diagnostic criteria, immunological diagnosis of chronic hepatitis. Differential diagnosis of diseases manifested by hepatomegaly, hepatolienal syndrome and jaundice. Diagnostic significance of liver puncture biopsy results. Types of jaundice and the mechanism of their development. Differential diagnostic criteria of jaundice. Differential diagnostic signs of diseases manifested by the suprahepatic, hepatic and subhepatic forms of jaundice. Principles of differentiated therapy of diseases complicated by jaundice. Treatment, preventive and rehabilitation measures. Complications (diagnostic criteria, treatment). **Practical part:** analysis of a thematic patient or medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ultrasound room, a clinical and biochemical laboratory, performing tasks according to a sample. Duty report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
41	**Differential diagnosis of liver cirrhosis**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of liver cirrhosis and accumulation diseases. Classification. Criteria for the diagnosis of cirrhosis of the liver of various etiologies and accumulation diseases, features of the clinical course. Differential diagnosis. Diagnostic significance of liver puncture biopsy results. Complications (diagnostic criteria, emergency care for urgent conditions, indications for surgical treatment). Treatment, preventive and rehabilitation measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ultrasound room, a clinical and biochemical laboratory, performing tasks according to a sample. Duty report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

42	**Differential diagnosis and treatment of intestinal dyspepsia. Control session on gastroenterology**	**Theoretical part:** Epidemiology, etiology, pathogenesis and risk factors of ulcerative colitis, Crohn's disease, chronic enterocolitis, pseudomembranous colitis, irritable bowel syndrome. Classification of these diseases, clinical manifestations. Methods of laboratory and instrumental diagnostics. Differential diagnosis. Complications (diagnostic criteria, treatment). Treatment, indications for surgical treatment. Preventive and rehabilitative measures. **Practical part:** analysis of a thematic patient or archival medical history, curation of patients, solving situational problems, registration of a workbook, educational medical history, work with handouts, educational, scientific, medical and reference literature, standard of specialized medical care, participation in the work of an ultrasound room, a clinical and biochemical laboratory, performing tasks according to a sample. Duty report. Assessment of competence acquisition (testing, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
43	**Electrophysiological basics of ECG. The technique of ECG examination. A normal ECG. Methods of ECG analysis and description sequence**	**Theoretical part:** The general concept of ECG and the conditions that determine its formation. ECG recording methods and basic lead systems. Functional tests. Normal ECG in standard leads and reinforced single-pole leads from the extremities, in single-pole thoracic leads and according to Neb. The order of ECG analysis. Diagnostic terminology in ECG. **Practical part:** Record an ECG in 12 conventional leads and additional Neb leads. Checking the correctness of the ECG recording technique. To perform an analysis, identify the main elements of the ECG, the structure of the cardiac cycle. To evaluate their amplitude and temporal changes and give a clinical assessment. Analyze your heart rate. Determine the rhythm source and heart rate. Evaluate the conduction function. Determine the position of the electrical axis of the heart. To analyze the rotations of the heart around the axes. To identify the main ECG syndromes for differential diagnosis. Perform vector ECG analysis, to issue an electrocardiographic report.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

44	**Electrocardiogram for myocardial hypertrophy and overloads of various parts of the heart and their clinical significance**	**Theoretical part:** Changes in the electric field of the heart in case of myocardial hypertrophy of one of the heart departments. Diseases accompanied by atrial and ventricular hypertrophy. ECG criteria for left ventricular hypertrophy. Variants of right ventricular hypertrophy. ECG for hypertrophy of the right and left atria. ECG symptoms of acute and chronic atrial and ventricular overloads. **Practical part:** Record an ECG in 12 conventional leads and additional Neb leads. He will learn how to identify and correctly interpret the ECG in case of hypertrophy and overloads of various parts of the heart. To differentiate myocardial hypertrophy of different parts of the heart from myocardial ischemia according to electrocardiogram data. To analyze the ECG of patients with myocardial hypertrophy, give a clinical assessment and issue an ECG conclusion.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
45	**Electrocardiogram for rhythm and conduction disorders**	**Theoretical part:** Definition and classification of cardiac arrhythmias. Pathogenesis and electrophysiological mechanisms of extrasystoles, ectopic tachycardia, tachyarrhythmias and impaired conduction. Methods of investigation of patients with cardiac arrhythmias. **Practical part:** Record an ECG in 12 conventional leads and additional Neb leads. Correctly interpret the ECG for sinus tachycardia, sinus bradycardia, and sinus arrhythmia. Learn to identify signs of atrial fibrillation, atrial and ventricular flutter, and ventricular fibrillation on an ECG. Learn how to detect extrasystoles on an ECG, distinguish atrial and ventricular extrasystoles, and detect signs of conduction disturbances, sino-auricular, atrioventricular, and intraventricular blockages on an ECG. Correctly interpret the ECG in paroxysmal tachycardia. To analyze the ECG of patients with cardiac arrhythmia and conduction disorders, give a clinical assessment and issue an electrocardiographic conclusion.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) –testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

46	**Electrocardiogram for various forms of coronary heart disease. Electrocardiography control session**	**Theoretical part:** Changes in electrical processes with varying degrees of acute coronary circulatory disorders. Electrophysiological features of myocardial infarction. Classification of coronary heart disease. Diagnosis of stable and unstable angina pectoris. Functional tests to detect latent coronary insufficiency. **Practical part:** Record an ECG in 12 leads and additional Neb leads. Learn how to identify signs of myocardial infarction (MI) on an ECG, determine the localization and stage of MI, and make a differential diagnosis between large-focal and small-focal MI. To give a clinical description of the various locations of MI. To perform an ECG analysis in patients with chronic coronary insufficiency during an angina attack and pre-infarction period. Assessment of competence acquisition (testing, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
47	**Practical skills. Anatomical and functional features of the cardiovascular system and diagnosis of acquired heart defects (training at the Accreditation and Simulation Center)**	**Theoretical part:** Anatomical and functional features of the cardiovascular system (normal and pathological physiology of blood circulation; methods of conducting auscultation of the heart and large vessels on phantoms - auscultation of heart tones and pathological noises, physiological pulse response to large vessels: – normal,- chest compression, - body position,- and from fluctuations in blood pressure; measurement of blood pressure with its display on the monitor; anatomy of the cardiovascular system on dummies). The "Giant Heart" dummy. **Practical part:** Perform a complete physical examination with suspected cardiovascular pathology. The ability to correctly and fully evaluate the data obtained in the study of the cardiovascular system. Know and be able to differentiate the auscultation pattern of various acquired heart defects. To form the main diagnostic hypothesis. Fill out the medical documentation correctly, according to the diagnosis.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
48	**Practical skills.**	**Theoretical part:** Classification of hypertensive crises.	UC-1:AI 1.1., 1.2.,	– homework review	

	Diagnosis and intensive care for hypertensive crisis (training at the Accreditation and Simulation Center)	Clinical manifestations. Basic diagnostic criteria. Differential diagnosis. Complications (diagnostic criteria, emergency care, prevention). **The practical part.** To navigate the various circumstances of the development of urgent conditions; to carry out basic diagnostic measures to identify urgent and life-threatening conditions in adult patients with hypertensive crises. To carry out timely and fully urgent medical measures for various hypertensive crises, including complicated ones. Evaluate your teamwork when performing manipulation.	1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC-1: AI 1.3.,1.4. PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9
49	**Practical skills. Diagnosis and intensive care for complicated acute coronary syndrome (training at the Accreditation and Simulation Center)**	**Theoretical part:** To know the classification of complications of myocardial infarction. Definition and diagnosis of acute heart failure, cardiogenic shock, indications, contraindications to manipulations on the topic of the lesson, the algorithm of manipulations, the technique of performing manipulations on the simulator in accordance with the algorithms of their implementation. **Practical part:** Work on the standard simulation module (SIM) No. 40. To navigate the various circumstances of the development of urgent conditions; to carry out basic diagnostic measures to identify urgent and life-threatening conditions in adult patients with acute coronary syndrome complicated by heart failure. To carry out timely and complete emergency treatment measures for these complications. Evaluate your teamwork when performing manipulations.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

50	**Practical skills. Diagnosis and intensive care for bronchoobstructive syndrome (training at the Accreditation and Simulation Center). A control session.**	**Theoretical part:** Anatomical and functional features of the respiratory system (methods of lung auscultation with the determination of normal and pathological breathing, with listening to wheezing on a phantom, with realistic imitation of bronchial obstruction; anatomy of the bronchopulmonary system on dummies). **The practical part.** To navigate the various circumstances of the development of urgent conditions; to carry out basic diagnostic measures to identify urgent and life-threatening conditions in adult patients with respiratory pathology. To carry out timely and fully urgent medical measures in the event of the development of life-threatening conditions in the pathology of respiratory organs. Evaluate your teamwork when performing manipulations. Verification of competence acquisition (testing in the Moodle system, defense of the educational medical history, interview on control issues and situational tasks).	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5 UC -3:AI 3.1. GPC-1: AI 1.1.-1.3 GPC -4: AI 4,1-4,5 GPC -7: AI 7.1.,7.2., 7.3.,7.5.,7.6.,7.7. GPC -11: AI 11.1-11.5 PC -2:AI 2.1-2.5 PC -3: 3.1-3.6 PC -4: AI 4.1-4.3 PC -5: AI 5.1-5.5 PC -6: AI 6.1., 6.2 PC-12: AI 12.1-12.3 PC-14: AI 14.1-14.3	– homework review – front-end survey (unwritten or written) – testing, including computer-based situational – solving situational problems. – practical skills testing	2,9

2.4. Interactive forms of classes

To enhance students' cognitive engagement, interactive teaching methods - including discussions, interactive quizzes, and simulation-based training at the Accreditation-Simulation Center - are actively integrated into clinical practical sessions.

№ Sl. No	The topic of the clinical practical lesson	Labor intensity in hours	Interactive form of education	Labor intensity in hours, in % of class
1	Iron-deficiency anemia, vitamin B12 deficiency anemia, folate deficiency anemia, aplastic anemia, hemolytic anemias	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
2	Acute and chronic leukemias	3,4	Discussion, testing in the Moodle system	30 min. (0.5hours)/14.7%
3	Multiple myeloma. Polycythemia vera, erythrocytoses	3,4	Business game, testing in the Moodle system	30 min. (0.5hours)/14.7%
4	Hemorrhagic diatheses: hemophilia, von Willebrand disease, thrombocytopenic purpura, Rendu-Osler disease, hemorrhagic vasculitis	3,4	Discussion, testing in the Moodle system	30 min. (0.5hours)/14.7%
5	Pleuritis. Chronic pulmonary heart disease	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
6	Chronic pyelonephritis, chronic renal failure	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
7	Congenital and acquired heart defects	3,4	Business game, testing in the Moodle system	30 min. (0.5hours)/14.7%
8	Myocarditis. Cardiomyopathies	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
9	Cardiac rhythm and conduction disorders	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
10	Gout, Bekhterev's disease, primary osteoarthrosis, rheumatoid arthritis. Assessment session	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5hours)/14.7%
11	Differential diagnosis and treatment of bronchial obstruction disorders. Bronchial asthma	2,9	Business game, Discussion	20 min. (0.3hours)/10.3%
12	Differential diagnosis and treatment of bronchial obstruction disorders. Chronic obstructive pulmonary disease	2,9	Discussion, performing creative tasks	20 min. (0.3hours)/10.3%
13	Differential diagnosis and treatment of focal lung diseases. Pneumonias	2,9	Discussion	20 min. (0.3hours)/10.3%

14	Differential diagnosis and treatment of focal lung diseases. Complications of pneumonia. Suppurative lung diseases	2,9	Discussion, performing creative tasks	20 min. (0.3hours)/10.3%
15	Differential diagnosis of pleural effusion	2,9	Interactive survey	20 min. (0.3hours)/10.3%
16	Differential diagnosis and treatment of disseminated lung diseases	2,9	Interactive survey	20 min. (0.3hours)/10.3%
17	Differential diagnosis of cardiopulmonary failure. Cor pulmonale. Assessment session in pulmonology	2,9	Interactive survey, testing in the Moodle system	20 min. (0.3hours)/10.3%
18	Differential diagnosis of heart murmurs and cardiomegaly. Chronic rheumatic heart disease. Acquired mitral valve defects	2,9	Interactive survey, performing creative tasks	20 min. (0.3hours)/10.3%
19	Differential diagnosis of heart murmurs and cardiomegaly. Acquired aortic valve defects. Congenital heart defects.	2,9	Interactive survey, performing creative tasks	20 min. (0.3hours)/10.3%
20	Differential diagnosis of chest pain. Coronary artery disease. Angina pectoris. Cardialgias	2,9	Business Game	20 min. (0.3hours)/10.3%
21	Differential diagnosis of chest pain. Myocardial infarction. Complications of myocardial infarction	2,9	Business Game, performing creative tasks	20 min. (0.3hours)/10.3%
22	Differential diagnosis of arterial hypertension. Essential hypertension	2,9	Discussion, Interactive survey	20 min. (0.3hours)/10.3%
23	Differential diagnosis of arterial hypertension. Secondary arterial hypertensions	2,9	performing creative tasks	20 min. (0.3hours)/10.3%
24	Differential diagnosis of cardiac arrhythmias and conduction disorders	2,9	Interactive survey	20 min. (0.3hours)/10.3%
25	Differential diagnosis and treatment of non-coronary myocardial lesions	2,9	Discussion, performing creative tasks	20 min. (0.3hours)/10.3%
26	Differential diagnosis and treatment of joint diseases	2,9	Interactive survey	20 min. (0.3hours)/10.3%
27	Differential diagnosis and treatment of diffuse connective tissue diseases. Assessment session in cardiology	2,9	Interactive survey, testing in the Moodle system	20 min. (0.3hours)/10.3%
28	ifferential diagnosis of urinary syndrome. Chronic pyelonephritis	2,9	Interactive survey	20 min. (0.3hours)/10.3%
29	Differential diagnosis of urinary syndrome. Chronic glomerulonephritis. Differential diagnosis of nephrotic syndrome	2,9	Discussion, performing creative tasks	20 min. (0.3hours)/10.3%

30	Acute and chronic renal failure. Chronic kidney disease. Assessment session	2,9	testing in the Moodle system	20 min. (0.3hours)/10.3%
31	Differential diagnosis and treatment of anemia syndrome. Iron-deficiency anemia, B12 and folate-deficiency anemias	2,9	Discussion	20 min. (0.3hours)/10.3%
32	Differential diagnosis and treatment of anemia syndrome. Hemolytic and aplastic anemias	2,9	Interactive survey	20 min. (0.3hours)/10.3%
33	Differential diagnosis and treatment of hemoblastoses. Acute leukemias	2,9	Interactive survey	20 min. (0.3hours)/10.3%
34	Differential diagnosis and treatment of hemoblastoses. Chronic lymphoproliferative disorders	2,9	Business Game	20 min. (0.3hours)/10.3%
35	Differential diagnosis and treatment of hemoblastoses. Chronic myeloproliferative neoplasms	2,9	Interactive survey	20 min. (0.3hours)/10.3%
36	Differential diagnosis and treatment of diseases presenting with hemorrhagic syndrome. Assessment session in hematology	2,9	Interactive survey, testing in the Moodle system	20 min. (0.3hours)/10.3%
37	Differential diagnosis and treatment of abdominal pain syndrome. Chronic gastritis. Peptic ulcer disease	2,9	Interactive survey	20 min. (0.3hours)/10.3%
38	Differential diagnosis and treatment of pancreatic diseases. Chronic pancreatitis	2,9	Interactive survey	20 min. (0.3hours)/10.3%
39	Differential diagnosis and treatment of biliary tract disorders. Chronic cholecystitis. Biliary dyskinesia	2,9	Interactive survey	20 min. (0.3hours)/10.3%
40	Differential diagnosis and treatment of diseases presenting with hepatomegaly, hepatolienal syndrome and jaundice. Chronic hepatitis	2,9	Interactive survey, Business Game	20 min. (0.3hours)/10.3%
41	Differential diagnosis of liver cirrhosis	2,9	Interactive survey	20 min. (0.3hours)/10.3%
42	Differential diagnosis and treatment of intestinal dyspepsia. Assessment session in gastroenterology	2,9	Discussion, testing in the Moodle system	20 min. (0.3hours)/10.3%
43	Electrophysiological basis of ECG. ECG examination methodology. Normal ECG. ECG analysis methods and interpretation sequence	2,9	performing creative tasks	20 min. (0.3hours)/10.3%
44	Electrocardiogram in myocardial hypertrophy and cardiac chamber overload: clinical significance	2,9	Interactive survey	20 min. (0.3hours)/10.3%
45	Electrocardiogram in arrhythmias and conduction disorders	2,9	Interactive survey	20 min. (0.3hours)/10.3%
46	Electrocardiogram in various forms of coronary artery disease. Assessment session in	2,9	Interactive survey, testing in	20 min. (0.3hours)/10.3%

	electrocardiography		the Moodle system	
47	Practical skills. Anatomical and functional characteristics of cardiovascular system and diagnosis of acquired heart defects (training at the Accreditation-Simulation Center)	2,9	Work at the Accreditation and Simulation Center	20 min. (0.3hours)/10.3%
48	Practical skills. Diagnosis and intensive therapy of hypertensive crisis (training at the Accreditation-Simulation Center)	2,9	Work at the Accreditation and Simulation Center	20 min. (0.3hours)/10.3%
49	Practical skills. Diagnosis and intensive therapy of complicated acute coronary syndrome (training at the Accreditation-Simulation Center)	2,9	Work at the Accreditation and Simulation Center	20 min. (0.3hours)/10.3%
50	Practical skills. Diagnosis and intensive therapy of bronchial obstruction syndrome (training at the Accreditation-Simulation Center). Assessment session	2,9	Work at the Accreditation and Simulation Center, testing in the Moodle system	20 min. (0.3hours)/10.3%

2.5. Criteria for assessing students' knowledge

Assessment of learning outcomes is carried out in accordance with the "Regulations on the System for Evaluating Student Learning Outcomes of the Amur State Medical Academy of the Ministry of Health of the Russian Federation".

The basis for determining the level of knowledge, skills, and abilities are the evaluation criteria – completeness and correctness.:

- the correct, accurate answer;
- correct, but incomplete or inaccurate answer;
- wrong answer;
- there is no answer.

When marking, the classification of errors and their quality are taken into account.:

- gross mistakes;
- the same type of errors;
- rough mistakes;
- shortcomings.

Distribution of marks in clinical practice sessions

№ Sl. No	The topic of the practical lesson	The theoretical part	The practical part	Overall assessment	Forms of control
1.	Iron-deficiency anemia, vitamin B12 deficiency anemia, folate deficiency anemia, aplastic anemia, hemolytic anemias	2-5	2-5	2-5	**The theoretical part** unwritten or written survey -Test tasks, including computer ones
2.	Acute and chronic leukemias	2-5	2-5	2-5	
3.	Multiple myeloma. Polycythemia vera, erythrocytoses	2-5	2-5	2-5	
4.	Hemorrhagic diatheses: hemophilia, von Willebrand disease, thrombocytopenic purpura,	2-5	2-5	2-5	

	Rendu-Osier disease, hemorrhagic vasculitis				**The practical part** Interviewing on situational tasks, checking practical skills at the bedside, in the Accreditation and Simulation Center, registration of a medical history, the ability to work with regulatory documents Performing exercises according to the pattern
5	Pleuritis. Chronic pulmonary heart disease	2-5	2-5	2-5	
6	Chronic pyelonephritis, chronic renal failure	2-5	2-5	2-5	
7	Congenital and acquired heart defects	2-5	2-5	2-5	
8	Myocarditis. Cardiomyopathies	2-5	2-5	2-5	
9	Cardiac rhythm and conduction disorders	2-5	2-5	2-5	
10	Gout, Bekhterev's disease, primary osteoarthrosis, rheumatoid arthritis. Assessment session	2-5	2-5	2-5	
11	Differential diagnosis and treatment of bronchial obstruction disorders. Bronchial asthma	2-5	2-5	2-5	
12	Differential diagnosis and treatment of bronchial obstruction disorders. Chronic obstructive pulmonary disease	2-5	2-5	2-5	
13	Differential diagnosis and treatment of focal lung diseases. Pneumonias	2-5	2-5	2-5	
14	Differential diagnosis and treatment of focal lung diseases. Complications of pneumonia. Suppurative lung diseases	2-5	2-5	2-5	
15	Differential diagnosis of pleural effusion	2-5	2-5	2-5	
16	Differential diagnosis and treatment of disseminated lung diseases	2-5	2-5	2-5	
17	Differential diagnosis of cardiopulmonary failure. Cor pulmonale. Assessment session in pulmonology	2-5	2-5	2-5	
18	Differential diagnosis of heart murmurs and cardiomegaly. Chronic rheumatic heart disease. Acquired mitral valve defects	2-5	2-5	2-5	
19	Differential diagnosis of heart murmurs and cardiomegaly. Acquired aortic valve defects. Congenital heart defects.	2-5	2-5	2-5	
20	Differential diagnosis of chest pain. Coronary artery disease. Angina pectoris. Cardialgias	2-5	2-5	2-5	
21	Differential diagnosis of chest pain.	2-5	2-5	2-5	

	Myocardial infarction. Complications of myocardial infarction				
22	Differential diagnosis of arterial hypertension. Essential hypertension	2-5	2-5	2-5	
23	Differential diagnosis of arterial hypertension. Secondary arterial hypertensions	2-5	2-5	2-5	
24	Differential diagnosis of cardiac arrhythmias and conduction disorders	2-5	2-5	2-5	
25	Differential diagnosis and treatment of non-coronary myocardial lesions	2-5	2-5	2-5	
26	Differential diagnosis and treatment of joint diseases	2-5	2-5	2-5	
27	Differential diagnosis and treatment of diffuse connective tissue diseases. Assessment session in cardiology	2-5	2-5	2-5	
28	Differential diagnosis of urinary syndrome. Chronic pyelonephritis	2-5	2-5	2-5	
29	Differential diagnosis of urinary syndrome. Chronic glomerulonephritis. Differential diagnosis of nephrotic syndrome	2-5	2-5	2-5	
30	Acute and chronic renal failure. Chronic kidney disease. Assessment session	2-5	2-5	2-5	
31	Differential diagnosis and treatment of anemia syndrome. Iron-deficiency anemia, B12 and folate-deficiency anemias	2-5	2-5	2-5	
32	Differential diagnosis and treatment of anemia syndrome. Hemolytic and aplastic anemias	2-5	2-5	2-5	
33	Differential diagnosis and treatment of hemoblastoses. Acute leukemias	2-5	2-5	2-5	
34	Differential diagnosis and treatment of hemoblastoses. Chronic lymphoproliferative disorders	2-5	2-5	2-5	
35	Differential diagnosis and treatment of hemoblastoses. Chronic myeloproliferative neoplasms	2-5	2-5	2-5	
36	Differential diagnosis and treatment of diseases presenting with hemorrhagic syndrome. Assessment session in hematology	2-5	2-5	2-5	
37	Differential diagnosis and treatment of abdominal pain syndrome. Chronic gastritis.	2-5	2-5	2-5	

	Peptic ulcer disease				
38	Differential diagnosis and treatment of pancreatic diseases. Chronic pancreatitis	2-5	2-5	2-5	
39	Differential diagnosis and treatment of biliary tract disorders. Chronic cholecystitis. Biliary dyskinesia	2-5	2-5	2-5	
40	Differential diagnosis and treatment of diseases presenting with hepatomegaly, hepatolienal syndrome and jaundice. Chronic hepatitis	2-5	2-5	2-5	
41	Differential diagnosis of liver cirrhosis	2-5	2-5	2-5	
42	Differential diagnosis and treatment of intestinal dyspepsia. Assessment session in gastroenterology	2-5	2-5	2-5	
43	Electrophysiological basis of ECG. ECG examination methodology. Normal ECG. ECG analysis methods and interpretation sequence	2-5	2-5	2-5	
44	Electrocardiogram in myocardial hypertrophy and cardiac chamber overload: clinical significance	2-5	2-5	2-5	
45	Electrocardiogram in arrhythmias and conduction disorders	2-5	2-5	2-5	
46	Electrocardiogram in various forms of coronary artery disease. Assessment session in electrocardiography	2-5	2-5	2-5	
47	Practical skills. Anatomical and functional characteristics of cardiovascular system and diagnosis of acquired heart defects (training at the Accreditation-Simulation Center)	2-5	2-5	2-5	
48	Practical skills. Diagnosis and intensive therapy of hypertensive crisis (training at the Accreditation-Simulation Center)	2-5	2-5	2-5	
49	Practical skills. Diagnosis and intensive therapy of complicated acute coronary syndrome (training at the Accreditation-Simulation Center)	2-5	2-5	2-5	
50	Practical skills. Diagnosis and intensive therapy of bronchial obstruction syndrome (training at the Accreditation-Simulation Center). Assessment session	2-5	2-5	2-5	
Educational medical history			2-5	2-5	
Average score					

Assessment scales of current knowledge control

The success of students in mastering the discipline (topics / sections), practical skills and abilities is characterized by a qualitative assessment and is evaluated according to a 5-point system: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory.

Evaluation criteria

Success rate	A mark on a 5-point scale
90 - 100 %	«5»
80 - 89 %	«4»
70 - 79 %	«3»
less than 70 %	«2»

Entrance control

Conducted in the first lesson, it includes testing in the Moodle system. Access mode: https://educ-amursma.ru/mod/quiz/view.php?id=3128

Current control

The current control includes the initial and output control of knowledge.

Initial control is carried out by the teacher at the beginning of each lesson in the form of a frontal survey, solving situational problems.

Output control – includes control over the methodology of practical skills and protocol design, testing in the Moodle system.

Access mode: https://educ-amursma.ru/course/view.php?id=199

The final assessment during the current knowledge control is set on the day of the lesson as the arithmetic average result for all types of activities provided for in this lesson of the discipline's work program.

Evaluation criteria (marks) of the theoretical part

«5» - for the depth and completeness of mastering the content of the educational material, in which the student is easily guided, for the ability to combine theoretical questions with practical ones, express and justify his judgments, correctly and logically state the answer; during testing, he allows up to 10% of erroneous answers.

«4» - the student has fully mastered the educational material, is guided by it, competently states the answer, but the content and form have some inaccuracies; during testing, he allows up to 20% of erroneous answers.

«3» - the student has mastered the knowledge and understanding of the main provisions of the educational material, but presents it incompletely, inconsistently, does not know how to express and justify his judgments; during testing, he admits up to 30% of erroneous answers.

«2» - the student has scattered and haphazard knowledge of the educational material, does not know how to distinguish the main and secondary, makes mistakes in defining concepts, distorts their meaning, presents the material randomly and uncertainly, and makes more than 30% of erroneous answers during testing

Criteria for evaluating the practical part

«5» - the student oversees the thematic patient on a daily basis, has fully mastered the practical skills and abilities provided for in the discipline's work program (correctly interprets the patient's complaints, medical history, objective examination data, formulates a clinical diagnosis, prescribes examination and treatment, interprets clinical, laboratory and instrumental indicators taking into account the norm).

«4» – the student oversees the thematic patient on a daily basis, has fully mastered the practical skills and abilities provided for in the discipline's work program, but admits some inaccuracies.

«3» - the student does not regularly supervise the patient, the student has only some practical skills and abilities.

«2» - the student has visited the supervised institution less than 4 times, performs practical skills with gross errors.

Criteria for assessing the educational medical history

«5» - registration of the educational medical history according to the requirements.

«4» - in the academic medical history, the student admits some inaccuracies in the formulation of a detailed clinical diagnosis, examination and treatment.

«3» - the educational medical history is made out with errors, written in illegible handwriting, inaccuracies in the formulation of a detailed clinical diagnosis and treatment, the pathogenesis of the disease is not fully covered.

«2» - the medical history is written in illegible handwriting, with gross errors (a detailed clinical diagnosis has not been made or substantiated, treatment has been prescribed incorrectly, and the pathogenesis of the disease has not been highlighted

Working off discipline debts

If a student has missed a lesson for a valid reason, he has the right to work it out and get the maximum mark provided by the discipline's work program for this lesson. A valid reason must be documented.

If a student misses a class for a disrespectful reason or gets a mark of "2" for all types of activities in the class, then he is obliged to work it out.

If a student is released from classes on the recommendation of the dean's office (participation in sports, cultural events and other events), then he is given a mark of "5" for this lesson, provided that a report is provided on the completion of mandatory extracurricular independent work on the topic of the missed lesson.

Evaluation criteria for the interim assessment

The intermediate certification – the exam - includes the following stages:

- testing in the Moodle system (intermediate certification tests);
- the practical part is a test of the assimilation of practical skills and competencies:
  - in the Accreditation and Simulation Center;
  - in the departments of the therapeutic profile (at the patient's bedside, with the interpretation of laboratory and instrumental indicators;
- the theoretical part is an oral answer to the exam ticket, consisting of 2 theoretical questions and 2 situational tasks in various sections of hospital therapy

Evaluation criteria for the interim assessment

"Excellent" - for the depth and completeness of mastering the content of the educational material, in which the student is easily guided, for the ability to combine theoretical questions with practical ones, express and justify their judgments, and correctly and logically state the answer. The practical skills provided for in the discipline's work program have been fully mastered.

"Good" - the student has fully mastered the educational material, is guided by it, competently states the answer, but the content and form have some inaccuracies. Fully practical skills and abilities provided by the discipline's work program, however, it allows for some inaccuracies.

"Satisfactory" - the student has mastered the knowledge and understanding of the main provisions of the educational material, but presents it incompletely, inconsistently, does not know how to express and justify his judgments. He has only some practical skills and abilities.

"Unsatisfactory" - the student has a disjointed and haphazard knowledge of the educational material, does not know how to distinguish the main and secondary, makes mistakes in defining concepts, distorts their meaning, randomly and does not confidently present the material. Performs practical skills and abilities with gross errors.

A student can apply for an excellent grade automatically if he has won a prize in disciplinary or interdisciplinary Olympiads (university, regional) and has an average score of at least 4.8 points based on current academic performance.

The student can opt out of automatic assessment and take the exam together with the group on a common basis.

Evaluation criteria for the interim assessment

Stages	**A mark on a 5- point scale**	
Testing in the Moodle system	3-5	**5 – «excellent»** **4 – «good»** **3 – «satisfactory»**
Practical skills testing at the Accreditation and Simulation Center	3-5	
Practical skills testing in the Department of therapeutic profile	3-5	
Interview ticket for the exam	3-5	
Practical skills testing at the Accreditation and Simulation Center	2	**2 – «unsatisfactory»**
Practical skills testing in the Department of therapeutic profile		
Interview ticket for the exam	2	

2.6. Independent work of students: classroom, extracurricular

Students' independent work consists of two components: classroom and extracurricular (compulsory for all students and optional) work.

Classroom independent work of students

Students' classroom independent work accounts for 25% of the time allocated to the study session. The main didactic tasks of students' independent work under the guidance of a teacher are: consolidation of knowledge and skills acquired during the study of an academic discipline in lectures and practical classes; prevention of their forgetting; expansion and deepening of educational material; formation of skills and abilities of independent work; development of independent thinking and creative abilities of students. The students' classroom work includes: checking current knowledge on the topic of practical training in the form of an oral or written survey, test control, solving situational problems, interpreting laboratory and instrumental indicators, drawing up an examination plan, treatment and prevention. Familiarization with the methodological manuals, tables, diagrams, stands, tablets available at the department. Supervision of patients and registration of educational medical history, development of practical skills in a simulation class. Individual work with the development and implementation of practical skills.

Extracurricular independent work of students

The main forms of extracurricular independent work can be used: studying basic and additional educational and scientific literature; solving situational tasks, test tasks, working in an online classroom; preparing oral reports; writing a medical history; being on duty at the clinic; preparing for a report on duty, performing diagnostic manipulations; carrying out observations and self-observations of specific clinical phenomena under study, etc. This type of educational activity should be based on the activity, initiative, consciousness and self-activity of students.

The topic of the clinical practical lesson	Student's preparation time for the lesson (one hour)	Forms of extracurricular independent work	
		Mandatory and the same for all students Hospital duty, duty report	According to the student's choice
Iron-deficiency anemia, vitamin B12 deficiency anemia, folate deficiency anemia, aplastic anemia, hemolytic anemias	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Report or computer presentation on the topic: "Modern scheme of hematopoiesis", "Regulation of hematopoiesis"
Acute and chronic leukemias	**2,4**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Report or computer presentation on the topic: "Differential diagnosis of acute leukemia"
Multiple myeloma. Polycythemia vera, erythrocytoses	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation or production of a table, tablet on the topic: "Cytostatic disease, agranulocytosis"
Hemorrhagic diatheses: hemophilia, von Willebrand disease, thrombocytopenic purpura, Rendu-Osier disease, hemorrhagic vasculitis	**2,4**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Production of a tablet or table on the topic: "Clinical and laboratory diagnostics of hemostasis pathology". Compilation of the diagnostic algorithm, design of the table

			"Diagnostic criteria for intracellular and intravascular hemolysis"
Pleuritis. Chronic pulmonary heart disease	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation on the topic: "Pulmonary embolism"
Chronic pyelonephritis, chronic renal failure	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation, or an abstract review on the topic: "Nephrotic syndrome", "Goodpastur e syndrome"
Congenital and acquired heart defects	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation, table, tablet on the topic: "Methods of surgical treatment of congenital heart defects, indications and counter-indications for surgical treatment"
Myocarditis. Cardiomyopathies	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation, table, tablet on the topic: "Myocardial dystrophy"
Cardiac rhythm and	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature,	Preparation of a presentation, tables on the topic:

conduction disorders		methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	"Indications and contraindications for cardioversion, radiofrequency ablation, implantation of a cardioverter and an electrocardiostimulator"
Gout, Bekhterev's disease, primary osteoarthrosis, rheumatoid arthritis. Assessment session	**2,4**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation, table, tablet on the topic: "Juvenile rheumatoid arthritis", "Psoriatic arthritis"
Differential diagnosis and treatment of bronchial obstruction disorders. Bronchial asthma	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparing a presentation or reviewing online sources on the topic: "Current issues of diagnosis and treatment of cystic fibrosis"
Differential diagnosis and treatment of bronchial obstruction disorders. Chronic obstructive pulmonary disease	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparing a presentation or reviewing online sources on the topic: "Syndrome of intersection of bronchial asthma and chronic obstructive pulmonary disease"
Differential diagnosis and treatment of focal lung diseases. Pneumonias	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook	Making a table, tablet, or abstract review, an overview of online sources on the topic: «Community-acquired pneumonia and influenza: a

		working in an online classroom.	comprehensive view of the problem»
Differential diagnosis and treatment of focal lung diseases. Complications of pneumonia. Suppurative lung diseases	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparation of a presentation or an abstract review on the topic: "Topical issues of diagnosis and treatment of pulmonary embolism"
Differential diagnosis of pleural effusion	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation or abstract review on the topic: "Tuberculous pleurisy: features of the clinical course and treatment at the present stage"
Differential diagnosis and treatment of disseminated lung diseases	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparation of a presentation or an abstract review on the topic: "Medicinal lesions of the lungs. Toxic fibrosing alveolitis"
Differential diagnosis of cardiopulmonary failure. Cor pulmonale. Assessment session in pulmonology	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for a pulmonology exam, preparation of a workbook.	Preparation of a presentation or an abstract review on the topic: "Primary pulmonary hypertension"

Differential diagnosis of heart murmurs and cardiomegaly. Chronic rheumatic heart disease. Acquired mitral valve defects	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparation of a presentation or abstract review on the topic: "Connective tissue dysplasia syndrome"
Differential diagnosis of heart murmurs and cardiomegaly. Acquired aortic valve defects. Congenital heart defects.	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation or an abstract review on the topic: "Infectious endocarditis"
Differential diagnosis of chest pain. Coronary artery disease. Angina pectoris. Cardialgias	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparation of a presentation or an abstract review on the topic: "Surgical methods for the treatment of coronary heart disease"
Differential diagnosis of chest pain. Myocardial infarction. Complications of myocardial infarction	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation or table on the topic: "Stages of rehabilitation after myocardial infarction"

Differential diagnosis of arterial hypertension. Essential hypertension	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Preparation of a presentation, or an abstract review, an overview of online sources on the topic: "Arterial hypertension in the elderly. Approaches to prescribing antihypertens ive drugs"
Differential diagnosis of arterial hypertension. Secondary arterial hypertensions	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Preparation of a presentation, production of a tablet on the topic: "Medicinal arterial hypertension".
Differential diagnosis of cardiac arrhythmias and conduction disorders	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Making a presentation or making a table or tablet on the topic: "Morgagni-Edems-Stokes syndrome"
Differential diagnosis and treatment of non-coronary myocardial lesions	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Making a presentation or making a table or tablet on the topic: "Pericarditis"
Differential diagnosis and treatment of joint diseases	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes,	Making a presentation or making a table or tablet on the topic:

		diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom. Preparation for the thematic patient's report.	"Sanatorium-resort treatment for joint diseases"
Differential diagnosis and treatment of diffuse connective tissue diseases. Assessment session in cardiology	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for a cardiology exam, preparation of a workbook.	Making a presentation or making a table or tablet on the topic: "Systemic vasculitis"
Differential diagnosis of urinary syndrome. Chronic pyelonephritis	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom.	Making a presentation or making a table or tablet on the topic: "Antibacterial therapy of urinary tract infections"
Differential diagnosis of urinary syndrome. Chronic glomerulonephritis. Differential diagnosis of nephrotic syndrome	**2,1**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, completing sample assignments, completing medical records, workbooks, and working in an online classroom. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Amyloidosis of the kidneys", "Sanatorium treatment for diseases of the urinary system"
Acute and chronic renal failure. Chronic kidney disease. Assessment session	**2,1**	Preparation on theoretical issues (reading lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.).	Making a presentation or making a table or tablet on the topic: "Kidney damage in diabetes mellitus",

		Solving (or compiling) problems, tests, writing recipes, algorithms, completing sample assignments, making medical history, workbook, working in an online classroom. Preparation for the nephrology exam, preparation of the workbook.	"Polycystic kidney disease"
Differential diagnosis and treatment of anemia syndrome. Iron-deficiency anemia, B12 and folate-deficiency anemias	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Indications for hemotransfusion and posttransfusion reactions and complications"
Differential diagnosis and treatment of anemia syndrome. Hemolytic and aplastic anemias	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Paroxysmal nocturnal hemoglobinuria"
Differential diagnosis and treatment of hemoblastoses. Acute leukemias	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Preparation of a presentation or production of a table, tablet on the topic: "Myelo-dysplastic syndrome"
Differential diagnosis and treatment of hemoblastoses. Chronic lymphoproliferative disorders	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based	Making a presentation or making a table or tablet on the topic: "Non-Hodgkin's lymphomas"

		on a sample. Preparation for the thematic patient's report.	
Differential diagnosis and treatment of hemoblastoses. Chronic myeloproliferative neoplasms	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Preparation of a presentation or production of a table, tablet on the topic: "Symptomatic erythrocytes", "Leukemoid reactions"
Differential diagnosis and treatment of diseases presenting with hemorrhagic syndrome. Assessment session in hematology	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report. Preparation for the hematology exam, preparation of the workbook.	Making a presentation or making a table or tablet on the topic: "Overdose of indirect anti-coagulants"
Differential diagnosis and treatment of abdominal pain syndrome. Chronic gastritis. Peptic ulcer disease	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Gastro-esophageal reflux disease"
Differential diagnosis and treatment of pancreatic diseases. Chronic pancreatitis	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample.	Making a presentation or making a table or tablet on the topic: "Sanatorium-resort treatment for diseases of the digestive system"

		Preparation for the thematic patient's report.	
Differential diagnosis and treatment of biliary tract disorders. Chronic cholecystitis. Biliary dyskinesia	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Design of tablets on the following topics: "Modern hepatoprotectors, choleretic and enzyme preparations, indications and counter-indications for their use" "Opisthorchiasis, clonorhosis"
Differential diagnosis and treatment of diseases presenting with hepatomegaly, hepatolienal syndrome and jaundice. Chronic hepatitis	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Benign hyperbilirubinemia", "Non-alcoholic fatty liver disease"
Differential diagnosis of liver cirrhosis	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Preparation of a presentation or production of a table, tablet on the topic: "Liver transplantation"; "Chronic alcoholic liver disease"
Differential diagnosis and treatment of intestinal dyspepsia. Assessment session in gastroenterology	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Bacterial overgrowth syndrome", "Celiac disease"

Electrophysiological basis of ECG. ECG examination methodology. Normal ECG. ECG analysis methods and interpretation sequence	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making an album, multimedia presentation on a normal ECG, "The technique of ECG recording on the palate and its significance for the detection of atypically located focal myocardial lesions
Electrocardiogram in myocardial hypertrophy and cardiac chamber overload: clinical significance	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Album design, multimedia presentation "ECG in acute hemodynamic overload of the right and left ventricles, atria. Main causes and clinical significance"
Electrocardiogram in arrhythmias and conduction disorders	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Sinus node weakness syndrome", "Holter ECG monitoring in the diagnosis of cardiac arrhythmias"
Electrocardiogram in various forms of coronary artery disease. Assessment session in electrocardiography	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Album design, presentation "Acute coronary syndrome. Electrocardiographic aspects",
Practical skills. Anatomical and functional	**1,5**	Theoretical training (lectures, basic and additional literature, methodological	Preparation of a presentation or

characteristics of cardiovascular system and diagnosis of acquired heart defects (training at the Accreditation-Simulation Center)		recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	production of a table, tablet on the topic: "Changes in the physiology of the cardiovascular system in cardiomegaly"
Practical skills. Diagnosis and intensive therapy of hypertensive crisis (training at the Accreditation-Simulation Center)	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "Differential diagnosis of arterial hypertension"
Practical skills. Diagnosis and intensive therapy of complicated acute coronary syndrome (training at the Accreditation-Simulation Center)	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report.	Making a presentation or making a table or tablet on the topic: "History of the developme nt of electro-pulse therapy"
Practical skills. Diagnosis and intensive therapy of bronchial obstruction syndrome (training at the Accreditation-Simulation Center). Assessment session.	**1,5**	Theoretical training (lectures, basic and additional literature, methodological recommendations, abstracting, making notes, diagrams, algorithms, etc.). Solution (or drafting) tasks, tests, writing recipes, algorithms, making medical records, workbooks, working in an online classroom, completing assignments based on a sample. Preparation for the thematic patient's report. Preparation for the final lesson, preparation of the workbook, preparation for the defense of the medical history.	Making a presentation or making a table or tablet on the topic: "Asthmatic status." Preparing a medical history for the final lesson
Labor intensity in hours	**96**	**96**	**12**
Total labor intensity in hours	**108**		

2.7 Scientific research (project) work

Research (project) work of students (R&D) is a mandatory section of the discipline and is aimed at the comprehensive formation of universal, general professional and professional competencies of students, provides for the study of special literature and other scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge, participation in scientific research, etc. The research topic can be chosen by students independently or in consultation with a teacher.

Sample topics of students' research (project) work:

1. Features of the clinical course of pneumonia in the Amur region.
2. Clinical and functional features of chronic obstructive pulmonary disease.
3. Clinical and functional features of the course of bronchial asthma in pregnant women and in the postpartum period.
4. Features of the clinical course and structure of allergic diseases in the Amur region.
5. Current issues of diagnosis and treatment of sarcoidosis.

A binary rating scale is used to evaluate the NIRC: "credited", "not credited".

Criteria for evaluating students' research (project) work:

- the material on the research results is presented in detail in the report, the special literature is well developed, scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge is studied – «credited»
- the material on the research results in the report is not presented correctly enough, the special literature is poorly developed, scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge is studied – «not counted»

3. EDUCATIONAL, METHODOLOGICAL, LOGISTICAL AND INFORMATION SUPPORT OF DISCIPLINE

3.1. Main literature

1. Internal diseases: in 2 vol. T. I.: textbook: in 2 vol / edited by A. I. Martynov, Zh. D. Kobalava, S. V. Moiseev. - 4th ed., revised. - Moscow: GEOTAR-Media, 2023. - 784 p. - ISBN 978-5-9704-7231-6. - Text: electronic // Electronic Library System "Student Consultant": [website]. - URL: https://www.studentlibrary.ru/book/ISBN9785970472316.html (accessed: 08.11.2024). - Access mode: by subscription.
2. Internal diseases: in 2 vol. Vol. II: textbook / edited by A. I. Martynov, Zh. D. Kobalava, S. V. Moiseev. - 4th ed., revised. - Moscow: GEOTAR-Media, 2023. - 704 p. - ISBN 978-5-9704-7232-3. - Text: electronic // Electronic Library System "Student Consultant": [website]. - URL: https://www.studentlibrary.ru/book/ISBN9785970472323.html (accessed: 08.11.2024). - Access mode: by subscription.
3. The main syndromes of internal diseases: a textbook / E. V. Reznik, A. P. Baranov, P. A. Mogutova [et al.]; under the direction of E. V. Reznik. - Moscow: GEOTAR-Media, 2025. - 264 p. - ISBN 978-5-9704-8835-5. - The electronic version is available on the website of the electronic library system "Student Consultant": [site]. URL: https://www.studentlibrary.ru/book/ISBN9785970488355.html (date of access: 08.11.2024). - Access mode: by subscription. - Text: electronic
4. Clinical approaches to differential diagnostics: a tutorial / Yu. N. Fedulaev, N. V. Orlova, I. G. Nikitin [et al.]. - Moscow: GEOTAR-Media, 2024. - 344 p. - ISBN 978-5-9704-7885-1, DOI: 10.33029/9704-7885-1-CLP-2024-1-344. - An electronic version is available on the website of the electronic library system "Student Consultant": [site]. URL: https://www.studentlibrary.ru/book/ISBN9785970478851.html (date accessed: 08.11.2024). - Access mode: by subscription. - Text: electronic

3.2. Additional literature

1. Respiratory diseases. A practical guide / edited by Zh. D. Kobalava. - Moscow: GEOTAR-Media, 2022. - 248 p. (Series "Doctor at the reception") - ISBN 978-5-9704-6476-2. - Text: electronic // Electronic library system "Student consultant": [website]. – URL:

https://www.studentlibrary.ru/book/ISBN9785970472316.html (accessed: 04/26/2023). - Access mode: by subscription.
2. Cardiology. National guidelines. Brief edition: a practical guide / edited by E. V. Shlyakhto. - 2nd ed., revised. and add. - Moscow: GEOTAR-Media, 2023. - 816 p. - ISBN 978-5-9704-7537-9. - Text: electronic // Electronic Library System "Student Consultant": [site]. - URL: https://www.studentlibrary.ru/book/ISBN9785970472323.html (accessed: 03/21/2023). - Access mode: by subscription.
3. Rheumatology: a textbook / A. A. Usanova [et al.]; edited by A. A. Usanova. - Moscow: GEOTAR-Media, 2023. - 408 p. - ISBN 978-5-9704-7448-8. - Text: electronic // Electronic Library System "Student Consultant": [site]. – URL: https://www.studentlibrary.ru/book/ISBN9785970488355.html (date of access: 21.03.2023). - Access mode: by subscription.
4. Khodorovich, N. A. Diseases of the digestive tract: pathogenesis and pharmacotherapy: a tutorial / N. A. Khodorovich, I. I. Shkrebneva. - Moscow: GEOTAR-Media, 2022. - 224 p. - ISBN 978-5-9704-6441-0. - Text: electronic // EBS "Student Consultant": [site]. - URL: https://www.studentlibrary.ru/book/ISBN9785970478851.html (date of access: 21.03.2023). - Access mode: by subscription.

3.3 Educational and methodological support for the discipline, prepared by the department staff

1. Voitsehovsky V.V., Landyshev Yu.S., Grigorenko A.A. Bronchopulmonary complications of chronic lymphocytic leukemia and multiple myeloma. - Blagoveshchensk, 2009. 305 p.
2. Landyshev Yu.S., Dorovskikh V.A. Pneumonia during the influenza A/H1N1 swl pandemic. - Blagoveshchensk, 2011. 172 p.
3. Landyshev Yu.S., Dorovskikh V.A., Chaplenko T.N. Drug allergy. St. Petersburg: "Nordmedizdat", 2010. 192 p.
4. Landyshev Yu.S., Prikhodko O.B., Babtseva A.F., Romantsova E.B. Primary prevention of allergic diseases in children born to mothers with bronchial asthma: a tutorial. Blagoveshchensk: Bukvitsa, 2010. 32 p.
5. Landyshev Yu.S., Grigorenko A.A., Dorovskikh V.A. Endocrine system in patients with bronchial asthma. Blagoveshchensk, 2013. 155 p.
6. Vakhnenko Yu.V., Landyshev Yu.S., Dorovskikh I.E., Urazova G.E., Pogrebnaya M.V. Diagnostics and principles of treatment of congenital heart defects / Tutorial, recommended by the Educational and Methodological Association for Medical and Pharmaceutical Education of Universities of Russia. Moscow - Blagoveshchensk, 2012. 133 p.
7. Urazova G.E., Landyshev Yu.S., Dorovskikh I.E., Vakhnenko Yu.V., Pogrebnaya M.V., Naidenov A.V. Acquired heart defects. Diagnostics and treatment / Study guide, recommended by the Educational and Methodological Association for Medical and Pharmaceutical Education of Russian Universities. - Moscow-Blagoveshchensk, 2011. 139 p. 8. Voitsekhovsky V.V., Landyshev Yu.S., Grigorenko A.A., Tseluiko S.S., Goborov N.D. Multiple myeloma. Modern principles of diagnostics and treatment. Blagoveshchensk, 2012. 140 p.
8. Voytsekhovsky V.V., Landyshev Yu.S., Grigorenko A.A., Tseluyko S.S., Goborov N.D. Multiple myeloma. Modern principles of diagnosis and treatment.Blagoveshchensk,2012.140 p.

Access mode:
https://amurgma.ru/zakrytaya-chast-sayta/5-kurs/
https://amurgma.ru/zakrytaya-chast-sayta/6-kurs/

Electronic and digital technologies:
Multimedia presentations (Microsoft Power Point 2016), for lecture-type classes, according to the thematic plan of lectures:
Access mode:
https://educ-amursma.ru/course/view.php?id=199

At the department
Multimedia presentations:
Pulmonology:
1. Broncho-obstructive syndrome
2. Pneumonia
3. Diagnostics of allergic diseases
4. Bronchial asthma
5. Chronic obstructive pulmonary disease
6. Allergic diseases in children
7. New world of COPD treatment options
8. Educational film: inhalation therapy
9. Severe bronchial asthma: prospects for the use of monoclonal antibodies
10. Pleurisy
11. European consensus on the diagnosis and therapy of cystic fibrosis
12. Selected lectures of academician A.G. Chuchalina
13. Modern aspects of diagnosis and treatment of pulmonary arterial hypertension
14. Clinical guidelines "Bronchial asthma" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
15. Clinical guidelines "Chronic obstructive pulmonary disease" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
16. Clinical guidelines "Acute bronchitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
17. Clinical guidelines "Chronic bronchitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
18. Clinical guidelines "Community-acquired pneumonia in adults" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
19. Clinical guidelines "Pulmonary Emphysema" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
20. Clinical guidelines "Hypersensitivity Pneumonitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
21. Clinical guidelines "Idiopathic Pulmonary Fibrosis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
22. Clinical guidelines "Sarcoidosis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - M., 2024)
23. Clinical guidelines "Viral Pneumonia" (Ministry of Health of the Russian Federation. - M., 2024)

Gastroenterology:
1. Liver cirrhosis
2. Gastrointestinal diseases
3. Metabolic liver diseases
4. Cholestasis
5. Peptic ulcer
6. Liver cirrhosis. Biliary cirrhosis
7. Bowel diseases

8. pH-metry
9. Standards of diagnosis and treatment for bowel diseases

Nephrology:
1. Renal amyloidosis
2. Chronic pyelonephritis
3. Chronic glomerulonephritis
4. Chronic kidney disease
5. Diagnosis of edema syndrome
6. Kidney biopsy
7. Formation of arteriovenous fistula
8. Chronic renal failure
9. Acute renal failure
10. Standards in nephrology

Hematology:
1. Hemorrhagic syndrome. Differential diagnostics
2. Hemoblastoses. Differential diagnostics
3. Classification of cytostatics
4. Medicines used in the treatment of anemic syndrome

Cardiology:
1. Myocarditis
2. Pericarditis
3. Myxoma
4. Coronary angiography (video)
5. Neurocirculatory dystonia
6. Congenital heart defects
7. Sick sinus syndrome
8. Metabolic syndrome
9. Acute cardiovascular failure
10. Cardiomyopathy

Rheumatology:
1. Gout
2. Dermatomyositis.
3. Reactive arthritis
4. Reiter's syndrome
5. Systemic scleroderma
6. Wegener's granulomatosis
7. Diagnostic algorithms and treatment rheumatologic diseases
8. Systemic vasculitis

Lectures (CD):
1. Diagnosis and symptoms of respiratory diseases
2. Infectious lung diseases.
3. Chronic obstructive pulmonary disease.
4. Neoplastic processes in the lungs.
5. Interstitial and infiltrative diseases of lungs.
6. Pathology of pleura.
7. Transplantation of lungs.
8. Efficacy and safety of β 2-agonists use.
9. Severe bronchial asthma.

10. Beam diagnosis of respiratory diseases.
11. Malignant lung tumors.
12. Acute and chronic pulmonary heart.
13. Spontaneous pneumothorax.
14. Possibilities of non-bulyzerous therapy.
15. Historical aspects of pneumonia.
16. Diseases of the respiratory organs and related diseases in humans.
17. Emphysema of lungs.
18. Diagnosis and treatment of invasive lung mycoses.
19. Infection of the lower respiratory tract.
20. Differential diagnosis of AB and HBP

Videos, photos used in the training of students (prepared by department staff)
Videos:

1. Teaching of internal diseases
2. Clinical demonstration of patients - acute toxic hepatitis, alcoholic liver cirrhosis, primary biliary cirrhosis
3. Kidney biopsy
4. Formation of arteriovenous fistula
5. Coronarography
6. Treatment of myocardial infarction
7. Method of conducting spirometry
8. Method of conducting bronchodilathic test

Photographic materials:

1. Photo album on chronic glumellonephritis
2. Photo demonstration of patients with different phenotypes of COPL
3. Photo demonstration of a patient with Stevens-Johnson syndrome
4. Photo album on cystic fibrosis
5. Photo album on liver cirrhosis
6. Photo demonstration of a patient with Badda-Kiari syndrome
7. Photo album on complications of systemic glucocorticoid therapy
8. Photo album on hemorrhagic syndrome
9. Photo Album on Gemstones
10. Photo album on joint diseases
11. Photo album on diffuse diseases of connective tissue
12. EKG-albums with demonstration of various disturbances of rhythm and conductivity
13. EKG-Albums on the diagnosis of various variants of ischemic heart disease
14. EKG-albums with hypertrophy of different heart departments
15. Photo album «Differential diagnosis of joint syndrome»
16. Photo presentation «Differential diagnosis of joint syndrome»
17. Photo album «Diagnosis of heart defects»
18. Photo presentation «Diagnosis of heart defects»
19. Photo album «EKG-diagnosis of rhythm disorders»
20. Photo presentation «ECG-diagnosis of rhythm disorders»
21. Photo album «Diagnosis of kidney diseases»
22. Photo presentation «Diagnosis of kidney diseases»
23. Photo presentation «Diagnosis and treatment of myocardial infarction»
24. Fotopresentation «ECG-diagnosis of hypertrophy»
25. Photo album «Diagnostic of infectious endocarditis»
26. Photo presentation «Diagnostics and treatment schemes of infectious endocarditis»
27. Electronic compilation of photographs from the results of the CDN meetings over 5 years

Training - visual aids:

Stands

1. Acquired and congenital heart defects
2. Heart rhythm and conductivity disorders
3. Antiarrhythmic drugs
4. Emergency care for tachyarymitis
5. Myocardial infarction
6. Arterial hypertension
7. Cardiovascular diseases
8. Atherosclerosis of coronary vessels
9. Non-coronary myocardial diseases
10. Ischemic heart disease
11. Pathology of hemostasis system
12. Anemia
13. Acute leukoses
14. Polycythemia
15. Multiple myeloma
16. Differential diagnosis of lymphadenopathy
17. Differential diagnosis of joint syndrome
18. Pneumonia
19. Diagnosis of bronchial asthma
20. Chronic obstructive pulmonary disease
21. Differential diagnosis of bronchial obstruction syndrome
22. Chronic Glomerulonephritis
23. Differential diagnosis in electrocardiography
24. ECG diagnosis of ischemic heart disease
25. ECG-Signs of hypertrophy myocardium
26. Stages of development of electrocardiography as a method of diagnosis in Russia and abroad

Tables

1. Classification of anemias
2. Exchange of bilirubin
3. Clinical-laboratory signs of hemolysis
4. Classification of acute leukaemia
5. Cytochemical reactions in differential diagnosis of acute leukosis forms
6. Abscess of lung
7. Pixwick syndrome
8. Granulomatosis de Wegener
9. Bronchoectatic disease
10. Pulmonary artery thromboembolism
11. Rational combinations of antibacterial drugs
12. Bronchial asthma
13. Chronic obstructive pulmonary disease
14. Sarcoidosis
15. Pulmonary heart
16. Pathogenetic classification of respiratory failure
17. Congenital scheme
18. Treatment of acute lymphoblastic leukemia
19. Stages of multiple myeloma
20. Classification of cytostatics
21. Criteria for diagnosing true polycythemia
22. Nephron structure
23. Unstable angina
24. Pathogenesis of myocardial infarction

25. Possibilities of electrocardiography
26. Indicators of external respiration function
27. Types of ECG changes in ischemic heart disease
28. Diagram of the heart conduction system
29. Circuit for determining the position of the electric axis of the heart
30. Degree of respiratory failure
31. Changes of ECG in myocardial infarction of different localization
32. Classification of cardiac arrhythmias
33. Indications for Holter monitoring
34. Indications for the conduct of a Pixlometry in patients with bronchial asthma
35. Role of ECG in the diagnosis of myocardial infarction
36. Normal electrocardiogram
37. Significant dates in the history of electrocardiography
38. ECG-Signs of hypertrophy myocardium
39. Indications for the use of spirography
40. Evaluation criteria of ECG test with physical load
41. Classification of the grades of ventricular extrasystole
42. Plan of analysis and conclusion on ECG
43. Differential diagnosis of large and small cardiac myocardial infarction
44. Classification of respiratory failure by severity
45. Ulcerative colitis
46. Crohn's disease
47. Rational combinations of antibacterial drugs
48. Osteoarthritis
49. Dyslipidemia and its complications

Albums

1. Pericarditis
2. Rheumatoid arthritis
3. Differential diagnosis of joint syndrome
4. Diagnostic criteria for osteoarthrosis
5. Aortic mouth stenosis
6. Stenosis of the left atrioventricular opening (mitral stenosis)
7. Amyloidosis
8. The album of the founders of medicine
9. Differential diagnosis of hemorrhagic syndrome
10. Glamerulonephritis
11. System red lupus
12. Congenital blue type heart defects
13. Differential diagnosis of acute abdominal syndrome
14. Complications of cirrhosis of the liver
15. Laboratory diagnostics in gastroenterology
16. Medicines for HIPC diseases
17. Bronchial asthma
18. Chronic obstructive pulmonary disease
19. Mucoviscidosis
20. Bronchoectatic disease
21. Pneumonia
22. Differential diagnosis of bronchial obstruction syndrome
23. Differential diagnosis of pleural ejaculation
24. Risk factors and clinical course of pulmonary artery thromboembolism
25. Treatment of pulmonary artery thromboembolism
26. Sarcoidosis
27. Differential diagnosis of dissected lung diseases
28. Stevens-Johnson Syndrome

29. ECG-Album with demonstration of various heart rhythm and conductivity disorders
30. EKG-Diagnostic Myocardial Infarction
31. EKG-album with hypertrophy of different heart departments
32. Chronic myeloleukemia
33. Hemolytic anaemia
34. Erythrocytosis, true polycythemia
35. Arterial hypertension
36. Congenital heart defects of pale type
37. Microplastic examination
38. Differential diagnosis of hemoblastosis

Distribution materials: ECG, spirograms, ACT-test, CAT-test, diaries of pixelometrics, forms with clinical, biochemical analyses of blood, myelograms, urine analyzes, moths, co-programs, pH-meter, urease and respiratory tests, PTCA in viral hepatitis, Results of punctured liver biopsy, abdominal organs X-rays, radiographs, tasks, tests, archived medical records, albums on the topics studied.

Electronic training manuals: «Methods of examination in pulmonologists», «ECG-diagnosis of various clinical conditions», «Endocarditis. Diagnosis and treatment»», «Diagnosis and treatment of arterial hypertension», «Ulceration of valvular heart defects»
(posted on the Moodle platform)
Access mode:https://educ-amursma.ru/course/view.php?id=199
«Principles of examination of patients with pathology of bronchophagic system» (posted on the website Amur state medical academy).
Access mode:https://amurgma.ru/zakrytaya-chast-sayta/6-kurs/

3.4.Equipment used for the educational process

№	Name	Number
Training rooms 1 - 8 («State Autonomous Institution of Healthcare of the Amur Region "Amur Regional Clinical Hospital"»)		
1	Table for teacher	**13**
2	Desk	**48**
3	Chairs	**156**
4	Learning board	**10**
5	Non-histoscope	**6**
6	Bookcase	**4**
7	Tumba	**2**
8	Pulsoximeter	**6**
9	Multifunctional device	**2**

10	themed stands	**27**
11	Folder-booklet with set of ECG	**10**
12	Folder with X-ray set	**10**
13	Spirometer	**1**
14	Alcohol analyzer	**1**
15	System unit	**7**
16	Monitor	**6**
17	Printer	**4**
18	Multimedia projector	**1**
19	Angioscan	**1**
Training rooms №1-2 (Cardiac clinic Federal State Budgetary Educational Institution of Higher Education «Amur State Medical Academy»)		
20	teacher's table	**2**
21	Desk	**10**
22	Стулья	**20**
23	Learning board	**2**
24	Bookcase	**1**
25	Thematic stands	**5**
26	Folder-booklet with set of ECG	**2**
27	Folder with X-ray set	**2**
28	**Accreditation and simulation centre**	
29	Table	**2**
30	Video monitoring system and recording of simulation training process	**2**
31	Medical bed	**2**
32	Crib	**1**
33	Medical table	**1**
34	Table of procedure	**2**
35	Patient impersonator, imitating an adult male for training	**2**
36	EKG skills	**2**
37	Robotic simulator for advanced cardiopulmonary	**1**
38	resuscitation	**1**
39	Cardiopulmonary resuscitation dummy	**1**
40	Training dummy with defibrillation capability	**1**
41	Pulsoximeter	**1**
42	Glucometer	**1**
43	Respiratory tract fitness trainer	**1**
44	Adult resuscitation trainer	**1**
45	Phantom ICU	**1**
46	Chair	**1**
47	Laptop	**1**
48	An auseschool dummy with the ability to mimic the auseschool	**1**
Bronchoscopy room State Autonomous Institution of Healthcare of the Amur Region "Amur Regional Clinical Hospital"		
49	Bronchophoroscope BF-P 60	**5**
50	pulse oximeter	**1**

3.5 Professional databases, information and reference systems, electronic educational resources

resource name	resource description	access	Resource address
Electronic library systems			
«Consultant of the student. Electronic library of medical university»	For students and teachers of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, manuals and periodicals.	Remote access after registration under the profile of the university	https://www.studentlibrary.ru/
Reference information system «MedBaseGeotar».	Reference information system «MedBaseGeotar» Intended for medical practitioners, researchers, teachers, graduate students, residents, senior students, health leaders for rapid search, selection and reading of medical literature in a common data source.	Remote access after registration under the profile of the university	https://mbasegeotar.ru/pages/index.html
Electronic library system «Bookup»	Large medical library-information and educational platform for the joint use of electronic educational, training and methodological publications of medical universities of Russia and CIS countries	Remote access after registration under the profile of the university	https://www.books-up.ru/
Electronic library system «Lan» («Лань»)	Online electronic library of medical universities - an electronic database of educational and scientific works on medical topics, created for the purpose of implementing online forms of professional education programs, open access to educational materials for partner universities	Remote access after registration under the profile of the university	https://e.lanbook.com/
Scientific electronic library «CyberLeninka» («КиберЛенинка»)	«CyberLeninka» is a scientific electronic library, built on the paradigm of open science (Open Science), whose main objectives are popularization of science and scientific activity, public quality control of scientific publications, development of interdisciplinary research, modern institute of scientific review, increasing citability of Russian science and building infrastructure of knowledge. Contains more than 2.3 mln. scientific articles.	free access	https://cyberleninka.ru/
Oxford Medicine Online	The Oxford Medical Publications Collection, which brings together over 350 publications in a cross-searchable common resource. Publications include The Oxford Handbook of Clinical Medicine и The Oxford Textbook of Medicine, Electronic versions of which are constantly updated.	free access	http://www.oxfordmedicine.com
Knowledge base on human biology	Background information on physiology, cell biology, genetics, biochemistry, immunology, pathology. (Resource of the Institute of Molecular Genetics RAS.)	free access	http://humbio.ru/
Medical online library	Free reference books, encyclopedias, books, monographs, abstracts, English literature, tests.	free access	https://www.medlib.ru/library/library/books
Information systems			
Clinical recommendations	Resource of the Ministry of Health of Russia, which contains clinical recommendations developed and approved by medical professional non-profit organizations of the Russian Federation, as well as methodological guides, nomenclatures and other reference materials.	Links to download applications	https://cr.minzdrav.gov.ru/#!/
Federal Electronic Medical Library	The Federal Medical Electronic Library is part of the unified public health information system as a reference system. EMB was created on the basis of funds of the Central Scientific Medical Library named after I.M. Sechenova. It is a well-known institution in Russia.	free access	https://femb.ru/
Russian medical association	Professional Internet-resource. Purpose: to promote the effective professional activities of medical staff. Contains the statute, personality, structure, rules of entry, information about the Russian Medical Union.	free access	http://www.rmass.ru/
Web-medicine	The site presents a catalogue of professional medical resources, including links to the most authoritative thematic sites, magazines, societies, as well as useful documents and programs. The site is intended for doctors, students, staff of medical universities and scientific institutions.	free access	http: //webmed.irkutsk.ru/

Databases			
World Health Organization	The site contains news, statistics for countries joining the World Health Organization, newsletters, reports, WHO publications and much more.	free access	http://www.who.int/ru/
Ministry of Science and Higher Education of the Russian Federation	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications and much more	free access	http://www.minobrnauki.gov.ru
Ministry of Education of the Russian Federation	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications and much more	free access	https://edu.gov.ru/
Federal portal «Russian Education»	Single window access to educational resources. This portal provides access to textbooks on all areas of medicine and health.	free access	http: //www .edu.ru/
Polpred.com	Electronic library system Business media. Media review	free access	https://polpred.com/news
Bibliographic databases			
Database «Russian medicine»	Established at CIM, covering the entire fund since 1988. The database contains bibliographical descriptions of articles from domestic journals and collections, dissertations and their abstracts, as well as domestic and foreign books, collections of works of institutions, conference materials, etc. Thematically the database covers all areas of medicine and related fields of biology, biophysics, biochemistry, psychology, etc.	free access	https://rucml.ru/
PubMed	Text database of medical and biological publications in English. PubMed is an electronic search system with free access to 30 million publications from 4,800 indexed medical journals. The database contains articles published since 1960 to date, including information from MEDLINE, PreMEDLINE, NLM. Every year the portal is updated with more than 500 thousand new works.	free access	https://pubmed.ncbi.nlm.nih.gov/
eLIBRARY.RU	Russian information portal in the field of science, technology, medicine and education, containing abstracts and full texts more than 13 million. Scientific articles and publications. The eLIBRARY.RU platform provides electronic versions of more than 2000 Russian scientific and technical journals, including more than 1000 open access journals.	Full site functionality available after registration	http://elibrary.ru/defaultx.asp
Electronic thesis library	Currently, the WBS Electronic Dissertation Library contains more than 919,000 complete texts of dissertations and abstracts.	free access	http://diss.rsl.ru/?menu=disscatalog/
Medline.ru	Medical-biological portal for specialists. Biomedical journal	free access	https://journal.scbmt.ru/jour/index
Official legal information portal	Unified official state information and legal resource in Russia	free access	http://pravo.gov.ru/

3.6 Licensed and freely distributed software used in the educational process

List of software (commercial software products)

№ п/п	List of software (commercial software products)	Supporting documents details
1.	Operating system MS Windows 7 Pro	license number 48381779
2.	Operating system MS Windows 10 Pro	CONTRACT № УТ-368 от 21.09.2021
3.	MS Office	license number: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4.	Kaspersky Endpoint Security для бизнеса – Стандартный Russian Edi-tion. 50-99 Node 1 year Educational Renewal License	contract № 7 АА от 07.02.2025
5.	1C accounting and 1C library	license contract 612/Л от 02.02.2022 (further licensing)

6.	1C: University PROF.	LICENSE CONTRACT № КрЦБ-004537 от 19.12.2023
7.	1C: Library PROF	LICENSE CONTRACT№ 2281 от 11.11.2020
8.	Consultant Plus	Contract № 41АА от 27.12.2024
9.	Contour.Tolk	Contract № К213753/24 от 13.08.2024
10.	E-learning environment 3KL(Russian Moodle)	Contract № 1362.5 от 20.11.2024
11.	Astra Linux Common Edition	Contract № 142 А от 21.09.2021
12.	Information system "Plans"	Contract № 2873-24 от 28.06.2024
13.	1C: Document flow	Contract № 2191 от 15.10.2020
14.	P7-Office	Contract № 2 КС от 18.12.2020
15.	License "OS ROSA CHROME workstation"	Contract № 88А от 22.08.2024
16.	Alt Virtualization Server 10 (for secondary specialized and higher professional education)	Contract № 14АК от 27.09.2024
17.	Dr.Web Desktop Security Suite Comprehensive protection + Control Center for 12 months.	Contract № 8 от 21.10.2024
18.	Software «Timetable for Educational Institutions»	Contract № 82А от 30.07.2024

List of freely available software

№ п/п	List of freely available software	Links to license agreement
1.	Browser «Yandex»	Free to share License agreement for the use of programs Browser «Yandex» https://yandex.ru/legal/browser_agreement/
2.	Yandex.Teleman	Free to share License agreement for the use of software https://yandex.ru/legal/telemost_mobile_agreement/
3.	Dr.Web CureIt!	Free to share License agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4.	OpenOffice	Free to share License: http://www.gnu.org/copyleft/lesser.html
5.	LibreOffice	Free to share License: https://ru.libreoffice.org/about-us/license/
6.	VK calls	Free to share https://vk.com/licence
7.	Kaspersky Free Antivirus	Free to share https://products.s.kaspersky-labs.com/homeuser/Kaspersky4Win2021/21.16.6.467/english-0.207.0/3830343439337c44454c7c4e554c4c/kis_eula_en-in.txt

3.7 Resources of information and telecommunication network «Internet»

-E-mail address of the library of Federal state budgetary educational institution of higher education "Amur state medical academy" of the Ministry of Healthcare of the Russian Federation
https://amurgma.ru/obuchenie/biblioteki/biblioteka-amurskoy-gma/

- **E-mail address Electronic library system «Student consultant»**
- https://www.studentlibrary.ru

4. APPRAISAL FUND

4.1. Current control and intermediate certification test

Examples of current control test tasks (input, output, output) with response reference

Discipline entry control is performed in the Moodle system, access mode:
https://educ-amursma.ru/mod/quiz/view.php?id=3128
total number of test assignments – 149.

Examples of input control tests (with response reference)
Examples of Moodle tests:
Enter one correct answer

1. TYPICAL PATHOLOGICAL PROCESS» - THIS
   1) it is a standard, evolved process, carrying protective and adaptive mechanisms, evolving in response to the action of pathogenic factors (inadequate irritants) and by its nature is a sanogenetic mechanism
   2) it is an inadequate (quantitative and qualitative) response to a physiological stimulus or the

effect of a non-physical stimulus
3) it is a long-term pathological process or recovery with function defect
4) is the response of an organism or part thereof to external or internal effects

2. THE ACTION OF AG-GCT (IGE) ON THE SURFACE OF TARGET CELLS (OBESE, BASOPHILS), FOLLOWED BY SUBSEQUENT ACTIVATION OF THESE CELLS AND RELEASE OF MEDIATORS, IS THE CENTRAL PATHOGENETIC LINK OF ALLERGY
   1) I – type
   2) II- type
   3) IV- type
   4) V- type
3. FOR ACUTE INFLAMMATION THE FOLLOWING SEQUENCE OF PATHOPHYSIOLOGICAL PROCESSES
   1) altherr → activation of lysosomal enzymes, release of mediators and reaction of microcirculatory stream → change in permeability, exudation and emigration, phagocytosis → proliferation and restoration of defect
   2) Altherr → microcirculation disorder → pleuritis
   3) Alteration → emigration → microcirculation disorder → proliferation
   4) Alterotherapy→ swelling →microcirculation disorder → emigration

4. THE MAIN PATHOGENETIC LINK IN THE DEVELOPMENT OF THE FIRST STAGE OF THE DBS-SYNDROME
   1) Excessive blood input of exogenous and endogenous procylegants
   2) fibrinolysis activation
   3) activation of primary anticoagulation system
   4) Thrombocytopenia

Response Patterns: correct answer 1).

Examples of initial, output test tasks (with response reference)

Initial, output control by discipline is carried out in the Moodle system, access mode: https://educ-amursma.ru/course/view.php?id=199

Total number of tests – 100.

Examples of Moodle tests (initial control)

Please provide one correct answer:

1. REVERSIBLE NATURE OF BRONCHIAL OBSTRUCTION SYNDROME IS CHARACTERIZED BY: a) CHRONIC OBSTRUCTIVE PULMONARY DISEASE; b) BRONCHIAL ASTHMA; c) CARDIAC ASTHMA; d) OBSTRUCTIVE EMPHYSEMA OF THE LUNGS; e) THROMBOEMBOLISM OF THE GLOTTIC ARTERY. CHOOSE THE RIGHT COMBINATION
   1) b, c
   2) a, b, d, e
   3) a, b, c
   4) a, b, c, d

2. BERODUAL - THIS
   1) adrenomimic
   2) cholinolytic
   3) combination of adrenomimetic and cholinolytic
   4) adrenergic blockers
3. SYMPTOMS OF BRONCHOECTATIC DISEASE ARE AS FOLLOWS: a) ARTHRITIS; b) «DRUMSTICKS»; c) COUGH WITH FECES MOIST; d) DRY COUGH; e) BLOOD COUGHING. CHOOSE THE RIGHT COMBINATION
   1) a, c, d, e
   2) c, e
   3) c, d, e

4) b, c, e

3. IN THE PATIENT WHO IS ON THE VENTILATOR FOR THREE DAYS BECAUSE OF WORSENING RESPIRATORY FAILURE AGAINST THE BACKGROUND OF ACUTE CHRONIC OBSTRUCTIVE BRONCHITIS, A LARGE AMOUNT OF GUMS IS RELEASED THROUGH INTUBATION TUBE. TREATMENT
    1) administration of large doses of euflylin
    2) bronchoscopy for the patient
    3) steroid therapy
    4) surgical treatment

5. TYPE OF SHORTNESS OF BREATH IN PATIENTS WITH BRONCHIAL OBSTRUCTION SYNDROME
    1) expiratory
    2) inspiratory
    3) mixed
    4) Kussmaul breathing

Response patterns: 1-1, 2-3, 3-4, 4-2, 5-1.

Examples of test tasks in the Moodle system (output control):
Please provide one correct answer:

1. FOR PATIENTS WITH BRONCHIAL OBSTRUCTION SYNDROME CLINICAL SIGNS ARE CHARACTERISTIC: a) DEPHT; b) DEPHT; b) SHORTNESS; d) ACRO-CYANOSIS; e) DIFFUSION. SELECT THE CORRECT COMBINATION OF ANSWERS
    1) b, c, d
    2) b, c, d, e
    3) a, b
    4) b, c, e
2. THE PATIENT HAS SYMMETRICAL CHEST MOVEMENTS, A CORPUSCULAR SOUND WITH PERCUSSION, WEAK VESICULAR BREATHING WITH PROLONGED EXHALATION. YOUR DIAGNOSIS
    1) hydro-pneumothorax
    2) pleurisy
    3) emphysema
    4) Pneumonia
3. PRIMARY PATHOGENETIC IMPORTANCE IN THE DEVELOPMENT OF PRIMARY EMPHYSEMA WE HAVE LUNG
    1) acute respiratory diseases
    2) chronic bronchial diseases
    3) functional overstrain of the breathing apparatus
    4) α_1-antihypertensive deficiency

4. ANTICHOLINERGIC AGENTS OF THE LISTED PREPARATIONS INCLUDE: a) EUFILLIN; b) PYRIFILLIN; c) ADRENALIN; d) ATROPIN; d) IPRATROPIUM BROMIDE. SELECT THE CORRECT COMBINATION OF ANSWERS
    1) a, c, e
    2) b, c, e
    3) a, b
    4) a, b, c
5. α_1-antihyperten can be used in therapy
    1) cardiac asthma
    2) syndrome of bronchial obstruction of toxic genesis
    3) lung emphysema
    4) lymphocytic lymphoma

Response patterns: 1-4, 2-3, 3-4, 4-2, 5-3.

Examples of boundary check test tasks (with response reference)

Boundary control in 10, 11 and 12 families is carried out in the Moodle system (access mode 10 semester: https://educ-amursma.ru/mod/quiz/view.php?id=2312
total number of test assignments – 270;
Access mode 11 semester: https://educ-amursma.ru/mod/quiz/view.php?id=18371
total number of test assignments – 299;
12-term access mode: https://educ-amursma.ru/mod/quiz/view.php?id=2315
total number of test assignments – 1296).

Examples of test tasks in the Moodle system

11 semester

Please provide one correct answer:

1. AN 82-YEAR-OLD PATIENT WAS ADMITTED TO THE EMERGENCY CARDIOLOGY WITH COMPLAINTS OF LONG-TERM COMPRESSIVE PAIN BEHIND HIS CHEST, DECREASING IN SITTING POSITION, SUBFEBRILITATE. ON ECG - ELEVATIONS OF ST IN ALL PROCEDURES. THE DISEASE IS RELATED TO CHILLING. MOST LIKELY
    1) myocarditis
    2) Titce syndrome
    3) pericarditis
    4) unstable angina
2. THE PATIENT WAS BROUGHT TO THE RECEPTION ROOM WITH COMPLAINTS ABOUT HEARTBEAT. HIS EXAMINATION REVEALED A PULSE DEFICIT (JACKSON III SYMPTOM). WHICH OF THE FOLLOWING RHYTHM DISORDERS CORRESPONDS TO THIS PHENOMENON
    1) sinus arrhythmia
    2) atrial extraslasia
    3) atrial fibrillation
    4) Supraventricular tachycardia
3. SUDDEN CHANGES IN THE HEART'S ELECTRICAL AXIS TO THE RIGHT, CHANGES IN THE PRURITUS COMPLEX BY TYPE P - RULMONARY, SI-QIII SYNDROME, DENT T INVERSION, INCOMPLETE RIGHT LEG BLOCK OF A BUNDLE OF PUS, AND REDUCTION OF ECCRIN TEETH
    1) Bacterial endocardite
    2) myocardial infarction
    3) pulmonary thrombosis
    4) hypertensive crisis
4. SUDDEN ONSET OF HEART ATTACK WITH UNPLEASANT SENSATIONS IN THE HEART AREA AND A TBC OF ABOUT 180 PER 1 MINUTE, DIZZINESS, NOISE IN THE HEAD, SWEATING, ON ECG - RHYTHM CORRECT, BITE BEFORE QRS AND SUDDEN END OF THE ATTACK
    1) sinus tachycardia
    2) extrasystole
    3) Paroxysmal Supra-Jugular Tachycardia
    4) paroxysmal atrial fibrillation
5. IN DIFFERENTIAL DIAGNOSIS WITH MYOCARDIAL INFARCTION FOR PERICARDITIS, ONLY ONE OF THE FOLLOWING INDICATORS
    1) Long-term attack of compressive pains, behind the chest
    2) Neutrophil leukocytosis is detected in the blood, little increase of AsAT and LGG and estrous phase indicators
    3) clow-grade fever
    4) the ST interval in all directions is offset upwards from the isolations

Response patterns: 1-3, 2-3, 3-3, 4-3, 5-4.

Examples of test tasks for intermediate certification (with response benchmarks)
Control is performed in the Moodle system, access mode:
https://educ-amursma.ru/mod/quiz/view.php?id=2315
total number of test assignments – 1300).

Please provide one correct answer:

1. INCREASED PLATELET COUNT IS CHARACTERISTIC OF
   1) essential thrombocytopenia
   2) heparin-induced thrombocytopenia
   3) Clot-thrombocytopenic purple
   4) aplastic anemia
2. THROMBOCYTOPENIC IMMUNE PURPLE IN BONE BRAIN IS DIAGNOSED
   1) Megasaryotic sprout hyperplasia
   2) Increased percentage of plasma cells
   3) Megaricardial Germ Suppression
   4) blastocyst
3. THE MAIN DIAGNOSTIC CRITERION FOR THE DIAGNOSIS OF «APLASTIC ANEMIA» IS
   1) Fat metamorphosis of the hematopoietic bone marrow in trepanobiopathy of the ilium
   2) peripheral blood platelet
   3) Malignant bone marrow according to myelogram
   4) enhancement of bilirubin by indirect fraction
4. INHALED GLUCOCORTICOSTEROIDS ARE EFFECTIVE
   1) Bronze
   2) anti-inflammatory
   3) Adrenomimetic
   4) anticholinergic
5. THE MAIN ANTI-INFLAMMATORY AGENTS FOR TREATING BRONCHIAL ASTHMA AREЯ
   1) glucocorticoids
   2) methylxanthine
   3) phosphodiesterase inhibitors 4
   4) non-steroidal anti-inflammatory

Response Patterns: correct answer 1).

4.2. Examples of situational current control tasks

Situational tasks are located in the Moodle system.
Access mode:https://educ-amursma.ru/course/view.php?id=199Total number of tasks – 500

Case 1

Patient M., 66 years old, was admitted to the clinic with complaints of: Cough with yellow-green sputum production,elevated body temperature up to 38.8°C (101.8°F),shortness of breath during moderate physical exertion,pain in the left side of the chest, worsening with coughing and deep breathing,general weakness, sweating.The onset was acute, 3 days ago, following hypothermia. The patient self-administered aspirin and bromhexine, but no improvement was observed.
Medical history: The patient has been smoking for 20 years, consuming 1–1.5 packs of cigarettes per day.
Physical examination:General condition: moderate severity.Skin: clear.Body temperature: 37.6°C (99.7°F).

No edema, peripheral lymph nodes are not enlarged.Respiratory rate at rest: 22/min.Chest: emphysematous, with lagging of the left side during breathing.Percussion: hyperresonant (box-like sound), dullness below the left scapula, with increased tactile fremitus in the same area.Auscultation: Dry wheezing on expiration, crackles under the left scapula.Heart sounds: muffled, heart rate: 102 bpm, blood pressure: 118/76 mmHg.

Abdomen: soft, non-tender.Liver and spleen: not enlarged.Lab results:Blood test:Hemoglobin: 152 g/L Erythrocytes: 5.2×10^{12}/L.Leukocytes: 12.6×10^{9}/L.Neutrophils:Band cells: 4%Segmented cells: 70% Lymphocytes: 18% Eosinophils: 2%Monocytes: 6%ESR: 34 mm/h/ Sputum analysis: mucopurulent character

Leukocytes: abundant,no acid-fast bacilli detected gram-positive diplococci identified. Chest X-ray (two projections): Infiltration in the lower lobe of the left lung. Pulmonary emphysema

Questions:

1. Preliminary diagnosis.
2. Rationale for the diagnosis.
3. What additional diagnostic tests are required?
4. What type of lung ventilation impairment is suspected?
5. Treatment.

Answer Key

1. Community-acquired pneumonia localized in the lower lobe of the left lung, moderate severity, acute phase. COPD, mixed type, moderate severity, respiratory failure (Stage I-II).
2. Syndromes:
   Inflammatory consolidation of lung tissue
   Intoxication
   Bronchitis
   Bronchial obstruction
   Hyperinflation and reduced elasticity of lung tissue
   Respiratory failure
   Risk factors (long-term smoking history)
3. Additional examinations: clinical and biochemical blood tests (monitored over time), sputum culture for microflora and antibiotic sensitivity,blood gas analysis, ECG,spirometry,fiberoptic bronchoscopy,follow-up chest X-rays
4. Possible mixed-type impairment of lung ventilation function.
5. Treatment: Antibiotic therapy: Initially empirical, later adjusted based on culture results (preferred options: beta-lactamase inhibitor-protected penicillins, 3rd-generation cephalosporins, respiratory fluoroquinolones).Bronchodilators (preferably via nebulizer).Mucolytics. Therapeutic bronchoscopy (if indicated).

Case 2

Patient D., 31 years old, has been suffering from chronic glomerulonephritis since 1997. Until 2010, the condition remained compensated. Since 2010, due to the development of end-stage chronic renal failure (ESRD), the patient has been receiving renal replacement therapy via scheduled hemodialysis. Additionally, anemia correction with erythropoietin drugs, antihypertensive therapy, and phosphate-calcium imbalance management have been administered.

In 2017, the patient's condition significantly worsened, with the following symptoms:

Severe bone pain (shoulder girdle, legs)Marked weakness. Chest deformity

Laboratory Findings:

Complete blood count:Hemoglobin: 96 g/L Erythrocytes: 2.32×10^{12}/L ESR: 23 mm/hr

Biochemical blood test: Total protein: 65 g/L Creatinine: 845 μmol/L

Urea: 23 mmol/L Potassium: 5.5 mmol/L Cholesterol: 6.62 mmol/L Calcium: 1.2 mmol/L

Phosphorus: 5.2 mmol/L Imaging Findings: Ultrasound of parathyroid glands: Hypoechoic structures Diffuse-nodular hyperplasia. Focal symmetry of the lower poles of the parathyroid glands. CT scan: Multiple lesions in the ribs and left shoulder joint. Local areas of rib expansion with honeycomb-like deformation. Calcified vascular trunks.

Questions:

Formulate the diagnosis.

1. What complication has developed in this patient?
2. What further management strategy should be pursued?
3. What are the causes of anemia in chronic renal failure (CRF)?
4. What is the schedule for programmed hemodialysis?

Answer Key

Diagnosis:Chronic glomerulonephritis, latent course.Chronic kidney disease, stage 5.End-stage renal disease (ESRD).Renal replacement therapy via scheduled hemodialysis.Mild anemia.

Complication:Disorder of phosphate-calcium metabolism – Secondary hyperparathyroidism.Further management:To correct phosphate-calcium imbalance, parathyroidectomy with biopsy of parathyroid glands is recommended (per guidelines from the Russian Dialysis Society and the US National Kidney Foundation).

Causes of anemia in CRF:Anemia in CRF results from the lack of erythropoietin production.

Hemodialysis schedule:Programmed hemodialysis is performed 3 times per week, 4 hours per session.

Examples of situational boundary control problems (with response benchmarks)

Case 1

Patient K., 22 years old, was admitted to the hospital with complaints of: Asthma attacks (3–5 times per day, including nocturnal episodes) Paroxysmal cough with difficult-to-expectorate sputum. Dyspnea on minor physical exertion.Nasal congestion History:Suffers from polyposis rhinosinusitis since age 18.For the past 5 years, experiences seasonal (May–June) symptoms: lacrimation, nasal congestion, and breathing difficulties.Allergy to metamizole (Analgin): nasal congestion and respiratory distress.Objective findings: Moderate condition, respiratory rate (RR) – 22/min.Severely impaired nasal breathing.Diffuse "warm" cyanosis. Percussion: Hyperresonant (box-like) sound.Auscultation: Abundant dry wheezing on expiration.HR 96 bpm, BP 110/70 mmHg.Heart sounds: muffled, rhythmic. Lab results: CBC:Hemoglobin: 128 g/L RBC: 4.5×10^{12}/L WBC: 8.0×10^{9}/L Neutrophils: 63% Lymphocytes: 21% Eosinophils: 13% (↑) Monocytes: 3% ESR: 10 mm/hr Sputum analysis: Viscous, mucoid consistency Leukocytes: 1–5/field Eosinophils: 40–60/field (↑↑) Curschmann's spirals, charcot-Leyden crystals. Spirometry:VC: 84% FEV1: 55% (↓) MEF25: 66% MEF50: 42% (↓) MEF75: 38% (↓) Post-bronchodilator test (salbutamol 400 mcg): FEV1 improved to 84% (↑)MEF50 improved to 59% (↑) Chest X-ray: No focal/infiltrative changes. Flattened diaphragmatic domes, hyperinflation

Questions:

1. Clinical diagnosis.
2. Rationale for the diagnosis
3. Interpret the spirometry results.
4. Prescribe treatment.
5. Which medications are contraindicated?

Answer Key:

1. Bronchial asthma, mixed type (atopic, aspirin-induced), newly diagnosed, severe. Respiratory failure (Stage I–II). Polyposis rhinosinusopathy. Pollinosis with allergic rhinoconjunctivitis.
2. Syndromes: Bronchial obstruction, pulmonary hyperinflation with reduced elasticity, respiratory failure, aspirin triad (asthma, nasal polyps, NSAID intolerance).
3. Moderate obstructive ventilatory dysfunction. Positive bronchodilator response (reversible obstruction).
4. Inhaled corticosteroids (preferably Pulmicort via nebulizer), bronchodilators (Berodual via nebulizer), Symbicort/Seretide, mucolytics.
5. NSAIDs are contraindicated (risk of aspirin-exacerbated respiratory disease).

Case 2

Patient, 55 years old, complains of: Cough with viscous, mucopurulent sputum (30 mL/day), worse in mornings, triggered by cold air/strong odors. Expiratory dyspnea on moderate exertion.Low-grade fever (37.3°C), weakness. History: Smoking: 1.5 packs/day for 25 years. Morning cough for 10 years, dyspnea and leg edema for 2 years. Objective findings: T 37.3°C, clammy skin, diffuse cyanosis, pitting edema (legs).

Accessory muscle use during breathing. Barrel-shaped chest, diminished tactile fremitus, hyperresonance.
RR 22/min. Auscultation: Harsh breath sounds (upper lobes), wheezing (expiration). Heart: Muffled sounds, P2 accentuation, HR 90 bpm, BP 120/80 mmHg. Plesh's sign (+), liver span 12×10×9 cm (Kurlov).
Lab results: CBC: RBC: 6.0×10^{12}/L (↑) Hb: 170 g/L (↑) WBC: 10.0×10^{9}/L Eosinophils: 13% (↑) ESR: 10 mm/hr. Sputum: Mucopurulent, Gram+ cocci. Spirometry: VC 54%, FEV1 48%, FEV1/FVC 60% (↓).
Questions:
1. Clinical diagnosis.
2. Rationale for the diagnosis.
3. List risk factors. What additional tests are needed?
4. Differential diagnoses.
5. Treatment. Name bronchodilators.

Answer Key:
1. COPD, mixed type, moderate severity, acute exacerbation. Respiratory failure (Stage II). Cor pulmonale, decompensated. Heart failure (IIB).
2. Syndromes: Bronchial obstruction, hyperinflation, respiratory failure.
3. Risk factors: Smoking (primary), indoor/outdoor air pollution, occupational dust/chemicals, childhood respiratory infections.Tests: Sputum culture, ABG, bronchodilator spirometry, bronchoscopy, ECHO.
4. Asthma, pneumonia, tracheal stenosis, bronchiectasis.
5. Amoxicillin/clavulanate, Berodual (nebulized), mucolytics, inhaled corticosteroids, calcium antagonists, oxygen therapy.
6. Bronchodilators:Anticholinergics (short/long-acting)β_2-agonists (salbutamol, formoterol) Methylxanthines (theophylline)Combination drugs (Berodual, Symbicort).

List of theoretical questions for the interim knowledge control
10 semester

1. Iron deficiency anemia: Etiology, pathogenesis, classification, clinical presentation
2. Clinical syndromes of IDA. Laboratory diagnostic methods for IDA
3. Modern principles of IDA treatment. B_{12} and Folate Deficiency Anemias
4. Etiology and pathogenesis of B_{12} and folate deficiency anemias. Classification, clinical presentation
5. Treatment of B_{12} and folate deficiency anemias. Hemolytic Anemias
6. Classification of congenital and acquired hemolytic anemias
7. Hereditary microspherocytic hemolytic anemia (Minkowski-Chauffard disease): Etiology, pathogenesis, clinical presentation, diagnosis, treatment. Aplastic Anemias
8. Aplastic anemias: Definition, etiology, clinical presentation
9. Diagnosis and treatment of aplastic anemias. Leukemias
10. Acute leukemias: Concept; factors influencing leukemia development
11. Acute lymphoblastic leukemia (ALL): Clinical presentation, diagnosis, treatment
12. Acute myeloblastic leukemia (AML): Clinical presentation, diagnosis, treatment
13. Chronic lymphocytic leukemia (CLL): Definition, epidemiology, classification, clinical presentation, diagnosis, treatment
14. Chronic myeloid leukemia (CML): Definition, epidemiology, pathogenesis. Plasma Cell Disorders
15. Multiple myeloma: Clinical presentation and diagnosis
16. Modern treatment principles for multiple myeloma. Polycythemias
17. Polycythemia vera: Clinical presentation and diagnosis
18. Treatment of polycythemia vera
19. Erythrocytoses: Definition, classification, clinical presentation
20. Differential diagnosis between erythrocytoses and polycythemia vera. Bleeding Disorders
21. Hemophilia: Definition, classification, clinical presentation and diagnosis
22. Treatment principles for hemophilia

23. Thrombocytopenic purpura: Etiology, pathogenesis. Clinical presentation and diagnosis. Treatment
24. Hereditary hemorrhagic telangiectasia (Rendu-Osler-Weber disease): Etiology, pathogenesis. Clinical presentation and diagnosis. Treatment
25. Henoch-Schönlein purpura: Etiology, pathogenesis. Clinical presentation and diagnosis. Treatment Cardiopulmonary and Renal
26. Differential diagnostic features of pleural effusion syndrome
27. Clinical-laboratory and functional diagnostic criteria for cor pulmonale
28. Main clinical syndromes and diagnosis of chronic pyelonephritis
29. Classification of chronic renal failure (CRF)
30. Main clinical syndromes of CRF. Cardiac Hemodynamics
31. Hemodynamic changes in "pale-type" heart defects: ASD, VSD, PDA, aortic stenosis
32. Hemodynamic changes in "cyanotic-type" heart defects: Tetralogy of Fallot. Main clinical syndromes of cyanotic CHD considering hemodynamic features. Valvular Heart Disease
33. Mitral stenosis: Etiology, classification by severity, main clinical signs, physical exam findings, treatment
34. Mitral regurgitation: Etiology, main clinical signs, physical exam findings
35. Aortic stenosis: Etiology, classification by severity, main clinical signs, physical exam findings
36. Aortic regurgitation: Etiology, main clinical signs, physical exam findings. Cardiomyopathies
37. Cardiomyopathy: Definition, modern concepts of etiology, classification. Rheumatology
38. Differential diagnosis of joint syndrome

11 semester

1. Bronchial Asthma: Definition, risk factors, pathogenesis. Clinical-pathogenetic variants, severity classification, control levels. Clinical-functional diagnostic criteria.
2. Stepwise asthma therapy: Controller medications and emergency drugs. Rehabilitation and preventive measures.
3. Status Asthmaticus: Diagnostic criteria, classification. Emergency care.
4. Differential diagnosis of bronchial obstruction syndrome: Clinical-functional differentiating criteria between asthma and COPD.
5. Chronic Obstructive Pulmonary Disease (COPD): Definition, risk factors, pathogenesis. Classification. Clinical-functional diagnostic criteria.
6. Stable COPD treatment: Smoking cessation programs, pharmacotherapy, long-term oxygen therapy, pulmonary rehabilitation, surgical interventions. Role of nebulizer therapy.
7. COPD exacerbation: Definition, risk factors, classification, hospitalization indications, outpatient/inpatient treatment. Oxygen therapy, assisted ventilation. Respiratory failure in COPD exacerbation. Rehabilitation and prevention.
8. Pneumonia: Etiology, pathogenesis, risk factors, classification, severity grading, diagnostic criteria, complications.
9. Differential diagnosis of focal lung diseases (TB, cancer, bronchiectasis, PE, etc.). Key differentiating criteria.
10. Pneumonia treatment: Hospitalization criteria. Antibiotic therapy: empirical selection, stepwise approach, efficacy criteria. Rehabilitation and prevention.
11. Lung suppurative diseases (abscess, gangrene): Classification. Diagnostic methods. Treatment principles. Emergency care.
12. Pleural effusion differential diagnosis (pneumonia, TB, PE, parasitic, pancreatitis, CTD, mesothelioma, Dressler's/Meigs' syndromes). Differentiating features, treatment.
13. Diffuse lung diseases differential (sarcoidosis, alveolitis, pneumoconiosis, TB, carcinomatosis, LAM, histiocytosis, PAP, etc.).
14. Pulmonary Heart Disease (acute, subacute, chronic): Etiology, pathogenesis. Classification, diagnostic criteria (clinical, lab, ECG/ECHO, imaging), differentials. Treatment, rehabilitation.
15. CAD. Angina: Definition, etiology, pathogenesis. Classification, diagnostic criteria (clinical, lab, ECG, functional classes).
16. Angina treatment (acute attack/interictal). Drug mechanisms.
17. Myocardial Infarction: Etiology, pathogenesis, risk factors. Classification, clinical variants, diagnostic criteria (clinical-lab, imaging).

18. MI complications (early/late), diagnostic criteria, emergency care. Cardiogenic shock: Classification, diagnostics, emergency management.
19. Differential diagnosis: MI vs angina vs symptomatic cardialgia (classification, key differentiating features).
20. Post-MI rehabilitation/prevention. Surgical CAD treatments.
21. Sinus tachycardia/bradycardia, extrasystoles (supraventricular/ventricular), SSS: Etiology, pathogenesis, clinical/ECG findings.
22. Supraventricular tachycardia, AF, VT, PSVT, SA/AV block, bundle branch blocks: Etiology, pathogenesis, clinical/ECG features.
23. Antiarrhythmic drugs: Classification, mechanisms, side effects, indications/contraindications.
24. Arrhythmia treatment principles. Emergency care for PSVT, AF, Stokes-Adams attacks. Pacing indications.
25. Hypertension: Etiology, pathogenesis, risk factors. Classification by stages, degrees, risk stratification. Diagnostic criteria (clinical, instrumental).
26. Hypertensive complications (crisis diagnostics, classification, differentials, emergency care).
27. Secondary hypertension (classification, diagnostic criteria).
28. Antihypertensive drugs: Mechanisms
29. Acute Rheumatic Fever: Etiology, pathogenesis, risk factors. ARF/CRHD classification, diagnostic criteria, differentials.
30. ARF/CRHD prevention (primary/secondary).
31. Mitral valve diseases: Etiology, pathogenesis, hemodynamics. Clinical features, diagnostics. Treatment principles. Surgical indications.
32. Aortic valve diseases: Etiology, pathogenesis, hemodynamics. Clinical features, diagnostics. Treatment principles. Surgical indications.
33. Acute/Chronic HF: Etiology, pathogenesis, staging. NYHA classification. Diagnostic criteria (left/right HF).
34. HF treatment. Emergency care for cardiac asthma, acute LVF, digoxin toxicity.
35. Congenital Heart Defects: Classification, hemodynamics, diagnostic criteria, differentials. Surgical indications.
36. Non-coronary myocardial diseases: Definition, etiology, risk factors, pathogenesis. Classification. Diagnostic criteria for myocarditis, cardiomyopathies, dystrophies. Treatment, rehabilitation.
37. Infective Endocarditis: Definition, etiology, risk factors, pathogenesis. Classification. Diagnostics. Treatment, prevention.
38. Pericarditis: Definition, etiology, risk factors, pathogenesis. Classification. Diagnostics. Treatment, prevention.
39. Rheumatoid Arthritis.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
40. Primary Osteoarthritis.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
41. Ankylosing Spondylitis.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
42. Gout.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
43. SLE. Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
44. Systemic Sclerosis.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
45. Dermatomyositis.Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention
46. Chronic Pyelonephritis: Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention.
47. Chronic Glomerulonephritis:Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention.
48. Secondary Nephropathies: Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention.

49. Acute/Chronic Renal Failure: Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention. RRT indications/contraindications, modalities.
50. CKD:Definition, etiology, risk factors, pathogenesis, classification, diagnostic criteria, treatment, prevention

12 semester

1. Iron Deficiency Anemias: Definition, etiology, pathogenesis, classification, clinical-diagnostic criteria. Diagnosis, differential diagnostic criteria. Treatment, monitoring of iron therapy efficacy, prevention.
2. B12 Deficiency Anemias: Definition, etiology, pathogenesis, clinical presentation, classification, diagnosis, differential diagnostic criteria, treatment, prevention.
3. Hemolytic Anemias: Definition, etiology, pathogenesis. Hemolysis mechanisms and main causes. Clinical presentation, classification. Diagnostic criteria, clinical-laboratory signs of hereditary spherocytosis, enzymopathies, hemoglobinopathies, differential diagnosis.
4. Autoimmune Hemolytic Anemias. Hemoglobinurias: Diagnostic criteria. Treatment principles, prevention.
5. Aplastic Anemias: Etiology, pathogenesis, clinical presentation, classification, differential diagnostic criteria. Treatment.
6. Agranulocytosis: Etiology, pathogenesis and classification. Clinical presentation, diagnosis and treatment.
7. Acute Leukemias: Etiology, pathogenesis, classification, clinical presentation, diagnosis, cytochemical criteria. Treatment principles and stages (remission induction/consolidation, neuroleukemia prevention, remission therapy). Variant-specific treatment. Cytostatic therapy complications.
8. Chronic Myeloid Leukemia: Etiology, pathogenesis, clinical presentation, diagnosis. Blast crisis diagnosis and management.
9. Polycythemia: Etiology, pathogenesis, clinical presentation, diagnosis, outcomes, treatment. Secondary erythrocytoses.
10. Chronic Lymphocytic Leukemia: Clinical variants, complication diagnosis, treatment. Diagnosis and management of autoimmune hemolytic anemia complication.
11. Paraproteinemic Hemoblastoses: Main forms, diagnosis, clinical manifestations, treatment. Multiple myeloma. Differential diagnosis.
12. Hodgkin's Lymphoma and Non-Hodgkin's Lymphomas: Classification, diagnosis, clinical presentation, prognosis, treatment. Differential diagnosis of lymphadenopathy.
13. Hemorrhagic Disorders and Syndromes: Etiology, pathogenesis, classification, clinical presentation. Differential diagnosis of hemorrhagic syndrome. Bleeding types. Investigation methods.
14. Diagnostic Criteria for: Hemophilia, autoimmune thrombocytopenic purpura, thrombocytopathies, Henoch-Schönlein purpura, hereditary hemorrhagic telangiectasia. Treatment, prevention.
15. DIC Syndrome: Causes, clinical presentation, treatment.
16. Chronic Gastritis: Definition, etiology and pathogenesis. Classification, diagnostic methods, gastric mucosa morphological changes.
17. Chronic Gastritis Treatment.
18. Peptic Ulcer Disease: Etiology, pathogenesis, classification. Normal acid-peptic regulation factors. Instrumental and laboratory diagnostic methods.
19. H. pylori Eradication Therapy and Antisecretory Drugs. Peptic ulcer prevention.
20. Peptic Ulcer Complications and Surgical Indications.
21. Chronic Cholecystitis: Definition, etiology and pathogenesis. Classification of chronic cholecystitis and biliary dysfunctions. Modern diagnostic methods. Differential diagnostic criteria.
22. Chronic Cholecystitis Treatment. Choleretic drugs classification. Complications.
23. Chronic Pancreatitis: Definition, etiology and pathogenesis. Classification. Clinical symptoms and syndromes. Treatment principles. Enzyme preparations classification. Prevention.
24. Chronic Hepatitis: Etiology, pathogenesis, classification. Modern diagnostic methods. Diagnostic criteria, differential diagnosis, treatment. Benign hyperbilirubinemias: diagnostic criteria, treatment.
25. Liver Cirrhosis: Modern concepts of etiology and pathogenesis. Classification. Diagnostic criteria (clinical, laboratory, instrumental, morphological). Differential diagnosis. Modern diagnostic methods.
26. Liver Cirrhosis Complications: Portal hypertension, hepatocellular insufficiency, hepatic encephalopathy, hemorrhagic complications, hepatorenal syndrome.
27. Liver Cirrhosis Pharmacotherapy and Complication Management.
28. Irritable Bowel Syndrome: Definition, main etiological factors, pathogenesis. Classification, clinical presentation, diagnostic criteria, differential features. Drug groups for IBS treatment and

their mechanisms.

29. ECG Recording Basics: Causes of organizational, technical and methodological errors. "Leads" definition. ECG study indications.
30. Electrode Placement Points. Standard (basic and additional) ECG leads. Holter monitoring.
31. Basic ECG Elements and Their Origin.
32. Atrial, AV and Intraventricular Conduction: Concepts, duration definitions and normal ECG values.
33. Wave Amplitude Measurement Techniques, units, ratios. Interval duration calculation methods. Heart rate determination techniques.
34. Ventricular Electrical Systole: QT interval concept, measurement methodology (cardiac functional assessment).
35. Electrical Axis of the Heart: "Right" and "left" ECG types. Cardiac rotations around three main axes (Zuckerman classification).
36. ECG Voltage Analysis: Causes of low- and high-amplitude curves.
37. Normal Sinus Rhythm ECG Signs. Non-sinus rhythm examples.
38. Cardiac Arrhythmia Investigation Methods. Arrhythmia classification. Main electrophysiological mechanisms.
39. Sinus Arrhythmia Criteria and Causes. Functional tests in arrhythmology.
40. Supraventricular and Ventricular Extrasystoles: ECG signs and clinical evaluation.
41. Atrial Fibrillation/Flutter: ECG signs with clinical characteristics.
42. Supraventricular and Ventricular Tachycardia: ECG signs and clinical evaluation.
43. AV Block Types and Degrees.
44. Bundle Branch Blocks: ECG signs and clinical evaluation.
45. WPW Syndrome ECG Diagnosis.
46. Myocardial Infarction ECG Signs: Anterolateral and posterior LV wall. RV infarction diagnostic leads.
47. Q-wave vs Non-Q-wave MI Differential ECG Signs. ECG changes by infarction stage.
48. Stress Tests for CAD Diagnosis. ECG signs of main infarction-mimicking conditions.
49. ECG in Coronary Reperfusion Assessment (after thrombolysis or PCI).
50. Blood Pressure Measurement: Technique and influencing factors.
51. Central Venous Pressure Measurement: Technique, influencing factors, abnormal values causes.
52. Pulse Measurement: Radial/carotid technique. Pulse characteristics. Heart rate influencing factors.
53. Acute Left Ventricular Failure: Definition, hemodynamic changes, emergency care.
54. Acute Coronary Syndrome: Definition, classification, diagnostic criteria, differential diagnosis, emergency care.
55. Auscultatory Differential Diagnosis of Acquired Heart Defects.
56. Pleural Puncture in Pneumothorax: Technique, indications/contraindications, complications.

4.3 List of practical skills that a student should have after mastering the discipline

In the pulmonology section:

1. To interpret complaints, medical history, life and data of objective examination (comparative and topographic percussion of lungs, austenitic voice, tonality, bronchophony, vocal tremor) in the patient with a disease of respiratory organs. Identify the main symptoms and syndromes and explain their pathogenesis.
2. Develop an examination plan for a patient with respiratory disease.
3. Interpret the following within normal ranges: Clinical and biochemical blood tests (fibrinogen, C-reactive protein, procalcitonin test, blood gases); Sputum analysis (general, cytological, cultural); Spirometry, bronchodilator test, peak flowmetry, fiberoptic bronchoscopy, and radiographic findings.
4. Formulate and justify a clinical diagnosis based on the obtained data.
5. Conduct differential diagnosis for key syndromes in pulmonology.
6. Prescribe treatment for the patient, considering: Clinical course of the disease,Age,Presence of complications,Comorbid conditions.
7. Write prescriptions for prescribed medications and describe the main drug classes.
8. Diagnose complications and provide emergency care for:Asthma attack,Status asthmaticus,Hemoptysis.
9. Develop a rehabilitation and prevention plan for bronchopulmonary diseases.

Cardiology Section:

1. Interpret objective examination findings in a patient with cardiovascular disease, including: Comparative percussion and auscultation of the heart,Width of the vascular bundle,Characteristics of the apical impulse,Blood pressure (BP), heart rate (HR), and pulse assessment.
2. Identify key symptoms and syndromes and explain their pathogenesis.
3. Develop an examination plan for a patient with cardiovascular disease.
4. Perform and interpret an ECG.
5. Interpret within normal ranges:Clinical and biochemical blood tests (sialic acids, plasma fibrinogen, prothrombin index, AST, ALT, CRP, lipid profile, troponin test, antistreptokinase, antistreptolysin-O, antihyaluronidase); 24-hour Holter ECG monitoring, echocardiography (EchoCG), and fundus examination.
6. Formulate and justify a clinical diagnosis based on the obtained data.
7. Conduct differential diagnosis of key syndromes in cardiology and rheumatology.
8. Prescribe treatment, considering:Individual clinical course,Age,Complications,Comorbid conditions.
9. Write prescriptions for medications and describe major drug classes.
10. Outline prevention methods and provide dietary and lifestyle recommendations.
11. Diagnose complications and provide emergency care for:Angina attack,Myocardial infarction, Cardiogenic shock,Cardiac asthma,Acute left ventricular failure,Hypertensive crisis,Paroxysmal supraventricular tachycardia,Paroxysmal atrial fibrillation,Morgagni-Adams-Stokes syndrome,Digitalis toxicity.

Nephrology Section:

1. Interpret complaints, medical history, and objective findings (kidney palpation, percussion tenderness, edema assessment, BP) in a patient with kidney disease.
2. Identify key symptoms and syndromes and explain their pathogenesis.
3. Develop an examination plan for a patient with kidney disease.
4. Interpret within normal ranges:Urinalysis (general, Amburge test, Zimnitsky test);Clinical and biochemical blood tests (urea, creatinine, electrolytes, fibrinogen, CRP, pH, coagulogram);Plain radiography, excretory urography, renal ultrasound.
5. Formulate and justify a clinical diagnosis based on findings.
6. Conduct differential diagnosis of key syndromes in nephrology.
7. Prescribe treatment, considering individual factors, complications, and comorbidities.
8. Write prescriptions and describe major drug classes.
9. Develop a rehabilitation and prevention plan for kidney diseases.
10. Diagnose complications and manage acute renal failure.

Hematology Section:

1. Interpret complaints, history, and objective findings (spleen palpation and size) in a patient with blood disorders
2. Identify key symptoms and syndromes and explain their pathogenesis.
3. Develop an examination plan for a patient with hematologic disease.
4. Interpret within normal ranges: Complete blood count (CBC),Biochemical tests (serum iron, TIBC, saturation index, coagulogram),Bone marrow aspiration,Spleen ultrasound.
5. Formulate and justify a clinical diagnosis based on findings
6. Conduct differential diagnosis of key hematologic syndromes.
7. Prescribe treatment, considering individual factors and complications.
8. Write prescriptions and describe major drug classes
9. Develop a rehabilitation and prevention plan.

Gastroenterology Section:

1. Interpret complaints, history, and objective findings (palpation of liver, spleen, intestines, pancreas; assessment of liver/spleen size, gastric borders; symptoms of peptic ulcer, pancreatitis, cholecystitis, hepatitis, cirrhosis, enterocolitis).
2. Identify key symptoms and syndromes and explain their pathogenesis.
3. Develop an examination plan for a patient with GI disease.
4. Interpret within normal ranges:Clinical and biochemical blood tests (ALT, AST, bilirubin, ALP, amylase, thymol/sublimate tests, serum albumin, protein electrophoresis, glucose, urea, creatinine, electrolytes, coagulogram);Stool analysis (coprogram, dysbacteriosis), urinalysis;Hepatitis markers (HBsAg, anti-HBc, anti-HCV);Urease/breath tests;Imaging (upper GI series, cholecystography, colonoscopy, sigmoidoscopy,

barium enema, EGD, pH-metry, abdominal ultrasound, liver biopsy).
5. Formulate and justify a clinical diagnosis based on findings.
6. Conduct differential diagnosis of key GI syndromes.
7. Prescribe treatment, considering clinical course, age, complications, and comorbidities.
8. Write prescriptions and describe major drug classes
9. Diagnose complications and manage emergencies in gastroenterology.
10. Develop a rehabilitation and prevention plan for GI diseases.

Electrocardiography (ECG) Section:

1. Record ECG in standard leads, augmented limb leads, and chest leads. Perform Neb's method.
2. Conduct exercise stress tests (bicycle ergometry/treadmill).
3. Perform pharmacologic tests (nitroglycerin, potassium chloride—indications, methods, significance).
4. Interpret ECG, assess voltage.
5. Evaluate cardiac function at rest.
6. Analyze and conclude Holter monitoring.
7. Assess heart rhythm regularity.
8. Calculate HR for regular/irregular rhythms.
9. Evaluate conduction function (atria, AV node, ventricles).
10. Analyze P wave, P-Q interval, QRS complex, ST segment.
11. List key components of an ECG report.
12. Determine electrical axis using the alpha angle.
13. Analyze ECGs (measuring waves, segments, intervals) in healthy individuals and patients with:Myocardial hypertrophy,Arrhythmias,Ischemic heart disease (including functional/pharmacologic tests).

Practical Skills (Simulation Center):

1. Assess a critically ill patient using the ABCDE algorithm.
2. Examine the cardiovascular system.
3. Conduct differential diagnosis of acquired heart defects.
4. Complete medical documentation for heart defect diagnosis.
5. Differentiate types of hypertensive crisis.
6. Prescribe emergency therapy for hypertensive crisis.
7. Administer oxygen therapy.
8. Manage true cardiogenic shock.
9. Provide emergency care for acute myocardial infarction.
10. Manage cardiogenic pulmonary edema.
11. Provide emergency care for bronchial obstruction syndrome.

4.4 List of questions for the exam

1. Coronary Artery Disease. Angina Pectoris: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
2. Coronary Artery Disease. Myocardial Infarction: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
3. Complications of Myocardial Infarction: Classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
4. Myocarditis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
5. Cardiomyopathies: Classification, development mechanisms, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
6. Myocardial Dystrophy: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
7. Pericarditis: Etiopathogenesis, classification. Clinical presentation of dry, effusive, and constrictive pericarditis, diagnosis, differential diagnosis, treatment.
8. Congenital Heart Defects in Adults: Etiology, classification. Patent Ductus Arteriosus: Hemodynamics, diagnostic criteria, differential diagnosis, treatment.
9. Aortic Coarctation: Hemodynamics, clinical presentation, diagnostic criteria, differential diagnosis, indications for surgical treatment.

10. Atrial Septal Defect: Hemodynamics, clinical presentation, diagnostic criteria, stages, treatment, indications for surgical intervention.
11. Ventricular Septal Defect: Hemodynamics, clinical presentation, diagnostic criteria, stages, treatment, indications for surgical intervention.
12. Hypertension: Definition, diagnostic criteria, clinical presentation, differential diagnosis, treatment, prevention of complications.
13. Secondary (Symptomatic) Arterial Hypertension: Classification, diagnosis, differential diagnosis, treatment, prevention of complications.
14. Renal Hypertension: Etiology, clinical presentation, diagnosis, differential diagnosis, treatment.
15. Endocrine Hypertension (Cushing's Syndrome/Disease, Pheochromocytoma, Aldosteronoma): Clinical presentation, diagnosis, differential diagnosis, treatment.
16. Cardiac Arrhythmias (Extrasystole, Paroxysmal Tachycardia): Pathogenesis, clinical presentation, hemodynamic and ECG changes, treatment, indications for electrical cardioversion.
17. Atrial Fibrillation and Flutter: Pathogenesis, classification, ECG changes, treatment, indications for electrical cardioversion.
18. Sick Sinus Syndrome: Diagnosis, clinical presentation, treatment, indications for pacemaker implantation.
19. Adams-Stokes-Morgagni Syndrome: Etiology, clinical presentation, diagnosis, treatment.
20. Conduction Disorders: Pathogenesis, classification, clinical presentation, ECG changes, treatment. Indications for temporary/permanent pacemaker implantation.
21. Pulmonary Embolism: Etiology, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
22. Neurocirculatory Dystonia: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
23. Acute Rheumatic Fever: Definition, etiology, pathogenesis, classification, diagnostic criteria, differential diagnosis, treatment, prevention.
24. Chronic Rheumatic Heart Disease: Definition, etiology, pathogenesis, classification, diagnostic criteria, differential diagnosis, treatment, prevention.
25. Mitral Valve Disorders: Pathogenesis, hemodynamics, clinical presentation, diagnosis, treatment.
26. Aortic Valve Disorders: Pathogenesis, hemodynamics, clinical presentation, diagnosis, treatment.
27. Primary Osteoarthritis: Etiology, pathogenesis, clinical presentation, forms and stages, differential diagnosis, treatment, indications for orthopedic intervention.
28. Gout: Etiopathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment.
29. Rheumatoid Arthritis: Etiology, pathogenesis, classification, diagnostic criteria, differential diagnosis, treatment, surgical options, indications.
30. Ankylosing Spondylitis: Etiology, pathogenesis, clinical presentation, disease activity levels, diagnostic criteria, differential diagnosis, treatment.
31. Systemic Lupus Erythematosus: Etiology, pathogenesis, clinical presentation, disease activity levels, diagnostic criteria, differential diagnosis, treatment.
32. Polyarteritis Nodosa: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment.
33. Systemic Sclerosis: Etiology, pathogenesis, classification, clinical presentation, diagnostic criteria, differential diagnosis, treatment.
34. Dermatomyositis: Etiology, pathogenesis, diagnostic criteria, differential diagnosis, treatment, prevention.
35. Bronchial Asthma: Etiology, pathogenesis, classification, clinical presentation, diagnosis, treatment, prevention.
36. Bronchial Asthma: Differential diagnosis, complications. Status Asthmaticus: Diagnostic criteria, treatment, prevention.
37. Bronchial Asthma: Control level criteria. Management of exacerbations.
38. Chronic Obstructive Pulmonary Disease (COPD): Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
39. Differential Diagnosis of Bronchial Obstruction Syndrome: Diagnostic criteria, clinical course features, treatment.
40. Pneumonia: Definition, etiology, pathogenesis, classification. Key clinical manifestations, differential diagnosis, complications, outcomes. Treatment.

41. Pneumonia: Clinical course variations by pathogen, diagnostic criteria. Treatment.
42. Differential Diagnosis of Pulmonary Consolidation Syndrome (Pneumonia, Tuberculosis, Lung Cancer, Bronchiectasis, Cystic Fibrosis).
43. Bronchiectasis: Etiology, pathogenesis, diagnostic criteria, differential diagnosis, treatment, prevention.
44. Cystic Fibrosis: Etiology, pathogenesis, diagnostic criteria, differential diagnosis, treatment, prevention of exacerbations.
45. Differential Diagnosis of Pleural Effusion. Diagnostic criteria for pleuritis, clinical course features, differential diagnostic criteria, treatment.
46. Cor Pulmonale: Etiology, pathogenesis, classification, clinical presentation, diagnostic criteria, differential diagnosis, treatment, prevention.
47. Pulmonary Sarcoidosis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
48. Hypersensitivity Pneumonitis (Exogenous Allergic Alveolitis): Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
49. Idiopathic Pulmonary Fibrosis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
50. Differential Diagnosis of Diffuse Lung Diseases (Hypersensitivity Pneumonitis, Idiopathic Pulmonary Fibrosis, Sarcoidosis). Diagnostic criteria, clinical course features, treatment.
51. Anaphylactic Shock: Etiology, pathogenesis, diagnostic criteria, differential diagnosis, treatment, prevention.
52. Functional Disorders of Gastric Motor and Secretory Function: Pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
53. Functional Bowel Disorders: Etiology, pathogenesis, motility disorder variants. Irritable Bowel Syndrome: Etiology, pathogenesis, diagnostic criteria, classification, differential diagnosis, clinical presentation, treatment.
54. Chronic Gastritis: Etiology, pathogenesis, clinical presentation, diagnosis, treatment, prevention.
55. Peptic Ulcer Disease: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
56. Symptomatic Gastric and Duodenal Ulcers: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
57. Postgastrectomy Syndrome: Pathogenesis, clinical presentation, classification, complications, treatment.
58. Chronic Pancreatitis: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
59. Chronic Cholecystitis: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
60. Postcholecystectomy Syndrome: Pathogenesis, classification, clinical presentation, diagnosis, treatment, prevention.
61. Chronic Hepatitis: Etiology, pathogenesis, clinical presentation, diagnosis, activity criteria, differential diagnosis, complications, treatment.
62. Liver Cirrhosis: Etiology, pathogenesis, classification, clinical presentation, severity criteria, diagnosis, differential diagnosis, complications, treatment. Indications for liver transplantation.
63. Ulcerative Colitis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment.
64. Crohn’s Disease: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment.
65. Chronic Pyelonephritis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
66. Chronic Glomerulonephritis: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, complications, treatment, prevention.
67. Nephrotic Syndrome: Etiology, pathogenesis, classification, clinical presentation, diagnosis, differential diagnosis, treatment.
68. Renal Amyloidosis: Etiology, pathogenesis, classification, clinical presentation, diagnosis, treatment.
69. Acute Kidney Injury: Etiology, pathogenesis, clinical presentation, disease stages, differential diagnosis, treatment, indications for hemodialysis.
70. Chronic Kidney Disease (CKD): Etiology, pathogenesis, stages, syndromes, differential diagnosis, treatment, indications for renal replacement therapy.

71. Iron-Deficiency Anemia: Etiology, pathogenesis, clinical presentation, differential diagnosis, treatment, prevention.
72. B12/Folate-Deficiency Anemias: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment, follow-up, prevention.
73. Hemolytic Anemias: Etiology, pathogenesis, mechanisms, classification, common features, diagnostic methods.
74. Key Clinical and Laboratory Features of Microspherocytosis, Enzymopathies, Hemoglobinopathies: Differential diagnosis.
75. Autoimmune Hemolytic Anemia, Hemoglobinuria: Diagnosis, differential diagnosis, treatment, indications for immunosuppressive therapy.
76. Aplastic Anemia: Etiology, pathogenesis, clinical presentation, diagnostic criteria, differential diagnosis, treatment, stem cell transplantation options.
77. Acute Leukemias: Etiology, pathogenesis, classification, laboratory/morphological, cytochemical, and immunophenotypic diagnostics, differential diagnosis.
78. Acute Leukemias: Clinical syndromes, complications, treatment principles, prevention of neuroleukemia, follow-up.
79. Chronic Myeloid Leukemia: Etiology, pathogenesis, classification, clinical presentation, diagnostic criteria, differential diagnosis, treatment.
80. Polycythemia Vera: Etiology, pathogenesis, classification, clinical presentation, diagnostic criteria, differential diagnosis, complications, treatment.
81. Secondary Erythrocytosis: Etiology, pathogenesis, classification, diagnostic criteria, differential diagnosis.
82. Chronic Lymphocytic Leukemia: Etiology, pathogenesis, classification, clinical presentation, diagnostic criteria, differential diagnosis, treatment.
83. Multiple Myeloma: Etiology, pathogenesis, classification, clinical variants, diagnosis, differential diagnosis, treatment.
84. Agranulocytosis: Clinical and laboratory diagnostics, clinical presentation, differential diagnosis, treatment.
85. Hemorrhagic Diatheses: Etiology, pathogenesis, classification, general features, bleeding types, diagnostic methods, differential diagnosis.
86. Hemophilia: Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment, prevention.
87. Immune Thrombocytopenic Purpura (ITP): Etiology, pathogenesis, clinical presentation, differential diagnosis with secondary thrombocytopenias, treatment.
88. Henoch-Schönlein Purpura (HSP): Etiology, pathogenesis, clinical variants, diagnosis, differential diagnosis, treatment.
89. Hereditary Hemorrhagic Telangiectasia (Rendu-Osler-Weber Disease): Etiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis, treatment.
90. Leukemoid Reactions: Etiology, clinical presentation, differential diagnosis, treatment