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: 50AB2242604E645208526149FAA20034A
Владелец: Жуковец Ирина Валентиновна
Действителен: с 15.04.2025 до 09.07.2026

EDUCATIONAL PROGRAM

discipline «Clinical Pulmonology»

Specialty: 31.05.01 General Medicine
Course: 5
Semester: 9
Total hours: 72 hrs.
Total credits: 2 credit units
Control form: credit-test, 9 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).

Author:
Professor at 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, Associate Professor O.B. Prikhodko

Reviewers:
Chief specialist not on the staff, Pulmonologist of the Ministry of Health of Amur Region, Ph.D of Medical Sciences, O.V. Demura
Associate Professor at the department of Faculty of Postgraduate Education, Ph.D. of Medical Sciences, V.V. Bataeva

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

CONTENTS OF THE WORK PROGRAM

1. EXPLANATORY NOTE

1.1. Discipline overview

The results of numerous epidemiological studies in healthcare indicate the widespread and continual increase in respiratory diseases among the population, which represents one of the most critical medical and social challenges of our time. This is due to both the high morbidity and mortality rates associated with these conditions.

The rising prevalence of respiratory diseases, along with the trend toward more severe clinical forms, underscores the importance of this discipline, placing it among the leading fields in modern clinical medicine.

Progress made over the past decade in understanding the immune, genetic, and biochemical foundations of pulmonary diseases has facilitated the development and implementation of new diagnostic methods. This provides a solid basis for early detection, timely and adequate treatment, and rehabilitation of patients, while also serving as a foundation for the prevention of bronchopulmonary diseases using the rapidly expanding arsenal of medications. Knowledge of modern approaches to diagnosis, treatment, and prevention is essential for medical students and future doctors, as nearly every healthcare professional encounters various respiratory diseases in their practice.

The elective course program "Clinical Pulmonology" is designed to provide an in-depth study of major bronchopulmonary diseases, including their etiology, pathogenesis, clinical and differential diagnostic criteria, as well as contemporary diagnostic, treatment, and prevention methods. The study of this discipline aims to develop students' professional skills through comprehensive clinical patient examinations and differential diagnosis, enabling them to establish accurate clinical diagnoses and formulate treatment, rehabilitation, and prevention plans. Classes in "Clinical Pulmonology" are held in the 9th semester, consisting of: 10 clinical practical sessions (34 hours) and 7 lectures (14 hours)

Instruction takes place in accordance with the curriculum in classrooms, pulmonary and general therapeutic hospital wards, and the Accreditation and Simulation Center.

1.2. Objectives and Aims of the Discipline

Objective of the Discipline - To deepen fundamental knowledge and develop a systematic understanding of major pulmonary diseases, enabling students to synthesize and apply acquired knowledge in clinical practice in accordance with modern principles of diagnosis, treatment, and prevention.

Aims of the Discipline

To foster clinical thinking and professional skills, to teach students:

1. accurately analyze and systematize clinical and anamnestic data, as well as physical examination findings in patients with major pulmonary conditions;
2. diagnose early manifestations of bronchopulmonary diseases in a timely manner;
3. perform differential diagnosis of key nosological forms in pulmonology;
4. correctly interpret findings from ancillary diagnostic tests;
5. work with medical documentation in a hospital setting;
6. develop independent clinical reasoning and formulate a comprehensive clinical diagnosis in accordance with modern classifications;
7. develop individualized treatment and rehabilitation plans for patients with respiratory diseases, considering etiological factors, pathogenesis, disease activity, functional status of organs and systems, and the presence of complications or comorbidities;
8. apply fundamental principles of emergency care for urgent conditions within the scope of the studied nosological forms.

1.3 Position of the Discipline in the Structure of the Core Professional Educational Program of Higher Education

In accordance with the Federal State Educational Standard of Higher Education – Specialist in the Specialty 31.05.01 "General Medicine" (2020), the discipline "Clinical Pulmonology" is part of the variable component, a discipline of choice, Block 1. Total workload: 2 credit units (72 academic hours). Teaching period: 9th semester (5th year). Form of control - credit - test in the 9th semester.

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

№	Name of subsequent disciplines	Discipline "Clinical Pulmonology"
1	Hospital Therapy	+
2	Outpatient Internal Medicine	+
3	Phthisiology	+
4	Clinical Pharmacology	+
5	Anesthesiology, Critical Care & Intensive Therapy	+
6	Dermatovenerology	+
7	Hospital surgery, pediatric surgery	+
8	Oncology & Radiation Therapy	+
9	Modern Diagnostic & Treatment Methods in Hematology	+

1.6. Requirements for Learning Outcomes

The study of "Clinical Pulmonology" 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 "Clinical Pulmonology", 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.	Main historical stages of the development of clinical pulmonology, the subject and objectives of the discipline, the connection with other medical-biological and medical disciplines; basic terms and concepts used in clinical pulmonology; modern concepts in the study of respiratory medicine; principles of using logical and methodological tools for a critical assessment of modern concepts of a philosophical and social nature in clinical pulmonology	To characterize the stages of the development of clinical pulmonology as a science and its role at the present stage; to assess the levels of organization of the human respiratory system; to assess the contribution of domestic scientists to the development of respiratory medicine; to develop and argue a strategy for solving problematic situations based on a systemic and interdisciplinary approach in clinical pulmonology	The ability to analyze the significance of clinical pulmonology at the present stage; systemic analysis of the data obtained to resolve problematic situations in the professional sphere; methods for developing and arguing a strategy for solving problematic situations based on a systemic and interdisciplinary approach in clinical pulmonology; a critical approach to assessing the reliability of information sources, methods for 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 examination methods in pulmonology;	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 pulmonology;	Ability to use modern medical technologies, specialized equipment, medical devices, drugs and their combinations, from the position of evidence-based medicine in pulmonology;

	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 pulmonology 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 pulmonology	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 pulmonology	Apply concepts and methods from physics, chemistry, mathematics, and other natural sciences to solve clinical problems in pulmonology	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: • 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 pulmonology 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 pulmonology; 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 pulmonology.	Referring patients for: diagnostic procedures (laboratory, instrumental). specialist consultations Analyzing and correlating clinical-diagnostic results in pulmonology 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 pulmonology pathology and other conditions

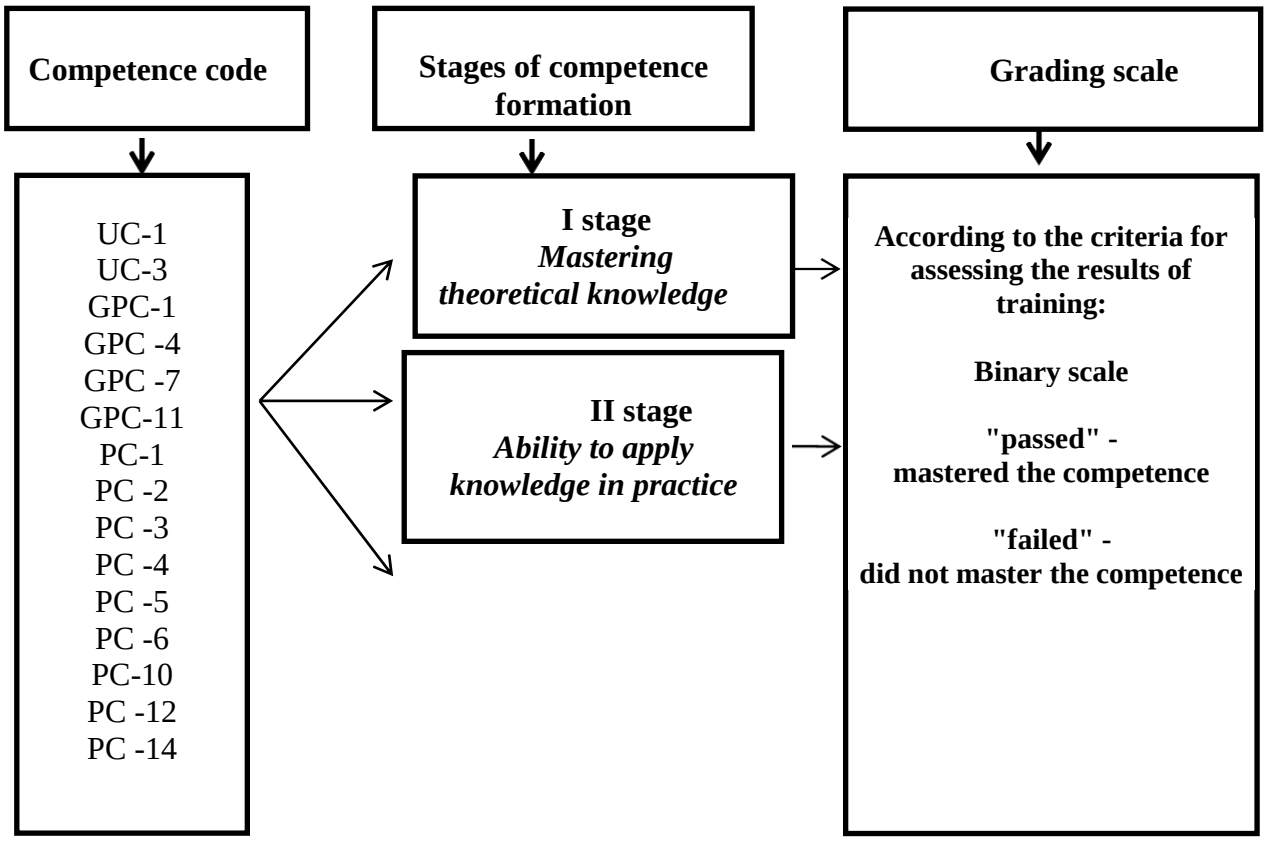
10	**PC-4.** Capable of determining indications for hospitalization and emergency (including specialized emergency) medical care	**AI PC -4.1.** Identifies medical indications for emergency care, including specialized emergency medical interventions **AI PC -4.2.** Directs the patient for specialized 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 pulmonology	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 pulmonology	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 pulmonology 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 pulmonology; to prescribe drugs, medical devices, non-medicament treatment for diseases of internal organs; to provide palliative care to patients with pulmonology diseases;	(treatment protocols) on the provision of medical care, taking into account the standards of medical care in pulmonology; 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 pulmonology

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 pulmonology	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 pulmonology	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 pulmonology
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 pulmonology 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 pulmonology	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 pulmonology 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 pulmonology 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

1.7. Stages of formation of competencies and descriptions of assessment scales



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 forms of learning	- interactive survey, - 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 a credit at the end of the IX semester. The credit includes the following stages: - testing in the Moodle system (interim certification test); - the defence of academic medical history; - to check that practical skills have been learnt; - interview on control questions (assessment of knowledge of theoretical material); – situational problem solving.

Explanation. Theoretical knowledge of the discipline students receive in lectures, clinical practical classes, taking part in research work of the department, rounds of patients with the head of the department, professor, associate professors, work in the department of functional diagnostics, X-ray room, clinical and biochemical laboratories, in the Accreditation and Simulation Centre. On clinical practical classes are carried out consolidation and control of the learnt material. In the process of training interactive forms of training are used: business games, computer simulations and others. Practical application of theoretical material in everyday work is logical in the process of learning, helps to acquire practical skills and abilities. In the process of supervising patients, training duty students consolidate and improve the basics of patient examination, skills in interpreting the results of clinical, laboratory and instrumental examination, formulating a clinical diagnosis, prescribing a plan of examination and treatment, medical deontology, medical ethics.

Current control consists of the assessment of theoretical knowledge and practical skills developed by students during the class and : entrance control **(**held at the first class, designed to determine the level of preparedness of students and consists of testing on previously passed disciplines); initial control (checking homework, testing, including computer, frontal questioning (similar theoretical and test questions will be proposed at the interim certification)); exit control (solving situational tasks; testing of practical skills (interpretation of the results of patient examination, laboratory and instrumental methods of examination, formulation and justification of clinical diagnosis, differential diagnosis, drawing up a plan of examination and treatment), report on duty with a of the patient's medical history.

Intermediate certification includes a credit in the IX semester and consists of assessment of theoretical knowledge and practical skills developed by students during the discipline, includes final test control (in the Moodle system), defence of the educational history of the disease, testing of practical skills, interview on questions for intermediate certification, solving situational tasks.

2. STRUCTURE AND CONTENT OF THE DISCIPLINE

2.1 Scope of the discipline and types of academic work

Types of academic work	Total hours	IX Semester
Lectures	14	14
Clinical practical classes	34	34
Independent work of students	24	24
Total labor input in hours	72	72
Total labor intensity in credit units	2	2

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.	**Modern Methods of Diagnosing Respiratory Diseases** The lecture discusses the main modern methods of diagnosing respiratory diseases, their indications, contraindications, and diagnostic significance: spirometry, peak flowmetry, electrocardiography, fiberoptic bronchoscopy, echocardiography, radiological diagnostics (radiography, computed tomography), and laboratory diagnostics. The methodology, interpretation, and diagnostic value of bronchodilator and bronchoprovocation tests are also covered.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
2.	**Bronchial Asthma (Part I: Diagnostic Criteria, Differential Diagnosis)** The lecture examines the current relevance of bronchial asthma diagnosis issues, presents epidemiological data on the disease prevalence, and provides: Definition of bronchial asthma. Etiology and pathogenesis. Risk factors. Classification by clinical forms, severity levels, control status, and disease phenotypes. Clinical-functional diagnostic criteria. Modern diagnostic methods. Identification of bronchial hyperreactivity markers (clinical, laboratory, functional, endoscopic). The lecture also covers differential diagnosis of bronchial obstruction syndrome.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
3.	**Bronchial Asthma (Part II: Control Levels, Treatment, Prevention)** The lecture addresses current challenges in bronchial asthma treatment. Key topics include: Pharmacotherapy for bronchial asthma: Controller medications. Reliever medications. Stepwise treatment approach. Modern drug delivery systems for respiratory medications: Classification. Advantages of different device types. Disease control achievement (GINA guidelines):Treatment approaches based on asthma control levels. Bronchial asthma prevention	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
4.	**Chronic Obstructive Pulmonary Disease** The lecture emphasizes the relevance and importance of the discussed problem, covering the epidemiology, etiology, risk factors, pathogenesis, and classification of chronic obstructive pulmonary disease (COPD). Key aspects include: The role of functional and fiberoptic bronchoscopic examination methods in COPD diagnosis. Modern approaches to COPD therapy according to current GOLD guidelines. Contemporary treatment methods based on COPD phenotypes and disease severity. Prevention of respiratory tract infections. The lecture provides a comprehensive overview of current diagnostic and therapeutic strategies for COPD management.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2

5.	**Pneumonia** The lecture addresses current issues in the diagnosis and treatment of pneumonia, including epidemiological data. Key topics covered: Definition, etiology, pathogenesis, risk factors, and classifications of pneumonia, Clinical features depending on etiological factors, Modern diagnostic criteria and severity assessment, Treatment approaches: Indications for hospitalization, Principles of antibiotic therapy: Initial antibiotic selection. Stepwise antibiotic therapy approach, Management of viral respiratory infections: Differentiated treatment strategies, Novel antiviral medications. Complications of pneumonia and prevention of respiratory tract infections are also discussed. The lecture provides a comprehensive overview of contemporary approaches to pneumonia management, from diagnosis to treatment and prevention.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
6.	**Alveolitis** Definition of the disease group - pulmonary disseminations. Classification.Etiology and pathogenesis features: Diagnostic criteria for: Hypersensitivity pneumonitis Toxic fibrosing alveolitis Idiopathic pulmonary fibrosis (clinical presentation, disease course characteristics) Diagnosis and differential diagnosis, treatment approaches, and prevention measures. The lecture provides a comprehensive overview of alveolitis with emphasis on diagnostic criteria, clinical features, and management strategies for different disease forms.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
7.	**Drug Allergy** Relevance, definition, and epidemiological data. Classification and diagnostic criteria. Clinical manifestations of pseudoallergic drug reactions. Diagnosis and differential diagnosis of drug allergy (DA). Main methods of specific DA diagnosis. Evaluation and clinical interpretation of medical history data. Role of skin tests with drug allergens in DA diagnosis: Reasons for low diagnostic significance. Indications for testing. Results interpretation Prevention of potential complications Laboratory diagnosis of DA Prevention of DA Severe toxic-allergic reactions. Etiology and pathogenesis. Clinical manifestations. Therapy approaches. Prevention measures. Serum sickness. Etiology and pathogenesis. Clinical variants of serum sickness. Diagnostic methods. Treatment approaches. Prevention strategies. Contraindications for immune serum administration. Absolute contraindications. Relative contraindications. Specifics of collecting allergological history prior to serum administration. The lecture provides a comprehensive review of drug allergy, covering diagnostic approaches, clinical manifestations, and management strategies for various allergic drug reactions and serum sickness.	GC-1, 3 GPC – 1,4,7,11 PC-1,2,3,4,5,6,10, 12,14	2
Всего			**14**

2.3. Thematic plan of clinical practical classes and their content

1	**Bronchial asthma**	**Theoretical Part** Epidemiology, Etiology, Pathogenesis, and Risk Factors of Asthma (BA). Classification. Clinical and pathogenetic variants of BA. Clinical manifestations, clinical and instrumental diagnostic criteria, differential diagnosis. AST-test (Asthma Control Test), significance. Treatment of BA based on disease severity and control level, stepwise therapy approach. Diagnostic criteria for steroid-dependent and steroid-resistant BA. Complications of BA (diagnostic criteria, treatment, emergency care).Disease prevention (primary, secondary, tertiary). **Practical Part.** Case study of a thematic patient, patient supervision, solving situational tasks, completing a workbook, preparing a clinical case record, working with handouts, educational/scientific/medical literature, and reference materials (including Federal Clinical Guidelines for BA Diagnosis and Treatment, specialized medical care standards). Participation in spirometry lab work, performing tasks using standardized protocols, duty reports, interpreting spirogram and peak flowmetry results (methodology, diagnostic significance).	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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
2	**Chronic obstructive pulmonary disease**	**Theoretical Part** Epidemiology, Etiology, Pathogenesis, and Risk Factors of COPD. Classification. Clinical manifestations. Key diagnostic criteria for COPD. CAT-test (COPD Assessment Test): methodology, significance. Differential diagnosis. Complications. Treatment and prevention. **Practical Part** Case studies of patients with different COPD phenotypes. Patient supervision, solving situational tasks, completing a workbook, preparing a clinical case record, working with handouts, educational/scientific/medical literature, and reference materials (including Federal Guidelines for COPD).	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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4

		diagnosis and treatment of COPD, standard of specialized medical care, participation in the work of spirography and bronchoscopy rooms, performing tasks according to the sample. Registration of conclusions on spirograms, with an assessment of the bronchodilator test (methodology, meaning).			
3	**Differential diagnosis of bronchial obstruction syndrome**	**Theoretical Part:** Definition of bronchial obstruction syndrome, classification, diagnostic criteria. Principal nosological forms and their diagnostic criteria. Asthma-COPD overlap syndrome (ACOS). Treatment of bronchial obstruction syndrome. **Practical Part:** Case studies of patients with bronchial obstruction manifesting in various diseases. Patient management and supervision, Clinical case problem-solving, Completion of clinical workbooks, Preparation of standardized medical case records, Work with educational materials: Handouts and teaching aids, Academic, medical and reference literature, Federal Clinical Guidelines for Asthma and COPD Diagnosis and Treatment, Standards of specialized medical care. Participation in diagnostic procedures: Spirometry laboratory. Bronchoscopy unit. Performance of standardized clinical tasks.Interpretation of diagnostic tests: Spirometry results (including bronchodilator test methodology and clinical significance).Training in the Accreditation and Simulation Center (management of bronchial obstruction syndrome)	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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
4	**Pneumonia**	**Theoretical Part:** Epidemiology, etiology, pathogenesis, and risk factors for pneumonia development. Classification. Clinical manifestations, features of clinical course depending on the causative agent. Main diagnostic criteria. Severity levels of pneumonia. Differential diagnosis. Indications for hospitalization. Treatment and prevention. **Practical Part:** Analysis of a thematic patient case, patient management, solving situational tasks, completing a workbook, preparing a clinical case record (medical history), working with handouts, educational, scientific, medical, and reference literature, specialized medical care standards, participation in the work of the X-ray department, bronchoscopy unit, clinical and biochemical laboratory, performing tasks according to a model, duty report, preparing conclusions based on archived 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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4

5	**Differential diagnosis of pneumonia. Pneumonia complications**	**Theoretical Part:** Risk factors, classification, clinical, laboratory, functional, and radiological diagnostic criteria for complicated pneumonia. Epidemiology, etiology, pathogenesis, classification, and clinical manifestations of lung abscess and gangrene, tuberculosis, lung cancer, pulmonary embolism (PE), bronchiectasis, cystic fibrosis, and eosinophilic infiltrate. Key diagnostic criteria. Complications. Treatment and prevention. Indications for surgical intervention. **Practical Part:** Analysis of a thematic patient case or archived medical history, patient management, solving situational tasks, completing a workbook, preparing a clinical case record (medical history), working with handouts, educational, scientific, medical, and reference literature, specialized medical care standards, participation in the work of the X-ray department, bronchoscopy unit, clinical and biochemical laboratory, performing tasks according to a model, duty report, preparing conclusions based on archived 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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
6	**Pleurisy**	**Theoretical Part:** Epidemiology, etiology, risk factors, classification, and diagnostic criteria of pleuritis. Characteristics of pleural effusion in pneumonia, tuberculosis, lung cancer, pulmonary embolism (PE), pleural mesothelioma, pleural carcinomatosis, circulatory insufficiency, diffuse connective tissue diseases, and parasitic infestations. Key diagnostic criteria, transudate and exudate. Complications. Treatment and prevention of these conditions. Indications for surgical intervention. **Practical Part:** Analysis of a thematic patient case or archived medical history, patient management, solving situational tasks, completing a workbook, preparing a clinical case record (medical history), working with handouts, educational, scientific, medical and reference literature, specialized medical care standards, participation in the work of the X-ray department, bronchoscopy unit, clinical and biochemical laboratory, performing tasks according to a model, duty report, preparing conclusions based on archived 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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
7	**Respiratory and pulmonary heartfelt insufficiency**	**Theoretical Part:** Epidemiology, etiology, risk factors, classification, and diagnostic criteria of cardiopulmonary insufficiency. Key diagnostic criteria for acute, subacute and chronic cor pulmonale. Differential. diagnostics. Complications. Treatment, prevention and rehabilitation measures.	UC-1:AI 1.1., 1.2., 1.3., 1,4.,1,5UC -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	-Checking homework assignments -Frontal survey (oral or written)	

		Practical Part: Case analysis of thematic patients or archived medical records, patient supervision, solving clinical case scenarios, maintaining a workbook, compiling academic medical histories, working with instructional materials, educational/scientific/medical reference literature, specialized medical care standards, participation in: radiology department operations, bronchoscopy suite procedures, clinical biochemistry laboratory work. Additional activities: performing standardized clinical tasks, completing duty shift reports. Formulating diagnostic conclusions based on: electrocardiogram (ECG) readings, echocardiography (EchoCG) results.		-Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
8	**Alveolitis**	**Theoretical Part:** Definition and Diagnostic Criteria of Alveolitis. Epidemiology, etiology, risk factors, classification, and diagnostic criteria of: hypersensitivity pneumonitis,idiopathic pulmonary fibrosis, key differential diagnostic criteria for these conditions. Complications. Treatment, prevention, and rehabilitation measures. **Practical Part:** Case analysis of thematic patients or archived medical records. Patient supervision, solving clinical case scenarios, completing a workbook, preparing academic medical histories, working with instructional materials, educational/scientific/medical reference literature, adherence to specialized medical care standards. Participation in: radiology department (X-ray unit), rronchoscopy suite, clinical biochemistry laboratory, performing standardized clinical tasks, submitting duty shift reports, formulating diagnostic conclusions based on archived 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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
9	**Dissemined lung diseases. Sarcoidosis**	**Theoretical Part:** Epidemiology, etiology, risk factors, classification, and diagnostic criteria of disseminated lung diseases, including sarcoidosis, pneumoconioses, disseminated tuberculosis, histiocytosis, pulmonary alveolar proteinosis, and others. Key differential diagnostic criteria for these conditions. Complications. Treatment approaches, preventive measures, and rehabilitation strategies. **Practical Part:** Case-based learning through analysis of current patient cases or archived medical records	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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks	3,4

		direct patient care and management; solving clinical case scenarios; maintaining clinical practice logbooks; compiling comprehensive patient histories; utilizing educational materials including handouts, academic textbooks, research literature, and medical references; applying evidence-based clinical practice guidelines; clinical rotations and participation in diagnostic departments including: radiological imaging unit (with emphasis on chest X-ray interpretation), bronchoscopy suite, clinical biochemistry laboratory; performing standardized clinical procedures; completing shift summary reports; generating diagnostic reports based on retrospective analysis of chest radiographs demonstrating disseminated pulmonary pathologies.		-Assessing practical skills	
10	**Emergencies (anaphylactic shock, asthmatic status, hives, Quincke's edema)** **Interim certification (set)**	**Theoretical Part:** Anaphylactic shock: etiology and pathogenesis, classification. Clinical course variants depending on severity and main symptoms; complications. Emergency therapy; patient management tactics after the acute phase of anaphylactic shock. Prevention, prognosis. Status asthmaticus: definition, etiology and pathogenesis, classification, diagnostic criteria, differential diagnosis, emergency care. Urticaria and angioedema (Quincke's edema). Classification, etiology and pathogenesis. Pseudoallergic reactions. Clinical presentation, diagnosis and differential diagnosis, emergency care. Treatment and prevention. **Practical Part:** Case analysis of thematic patients, patient management, solving clinical scenarios, completing workbooks, preparing academic medical records, working with handouts and educational/scientific/medical reference literature, applying specialized medical care standards.	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	-Checking homework assignments -Frontal survey (oral or written) -Testing, including computer-based testing -Solving situational/case-based tasks -Assessing practical skills	3,4
		Theoretical Part: Completing test control questions in the Moodle system, oral examination on key questions for intermediate certification (pass/fail evaluation). **Practical Part:** Solving clinical case scenarios, demonstrating practical skills, defending an academic medical case report.		Pass/fail assessment (Moodle system testing, defense of academic medical case reports, evaluation of practical clinical skills, oral examination on intermediate certification questions, clinical case scenario resolution)	
	Total hours				**34**

2.4 Interactive forms of teaching

In order to activate students' cognitive activity, interactive teaching methods are widely used in practical classes.

№	Topic of clinical practical lesson	Labor intensity in hours	Interactive form of learning	Labor intensity in hours, in % of the lesson
1	Bronchial asthma	3,4	Business simulation exercise Moodle system testing	30 min. (0.5 hours)/14.7%
2	Chronic obstructive pulmonary disease	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5 hours)/14.7%
3	Differential diagnosis of bronchial obstruction syndrome	3,4	Work at the Accreditation and Simulation Center	30 min. (0.5 hours)/14.7%
4	Pneumonia	3,4	Business simulation exercise Moodle system testing	30 min. (0.5 hours)/14.7%
5	Differential diagnosis of pneumonia. Pneumonia complications	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5 hours)/14.7%
6	Pleurisy	3,4	Completion of creative assignments Testing in the Moodle system	30 min. (0.5 hours)/14.7%
7	Respiratory and pulmonary heartfelt insufficiency	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5 hours)/14.7%
8	Alveolitis	3,4	Discussion Testing in the Moodle system	30 min. (0.5 hours)/14.7%
9	Dissemined lung diseases. Sarcoidosis	3,4	Interactive survey, testing in the Moodle system	30 min. (0.5 hours)/14.7%
10	Emergencies (anaphylactic shock, asthmatic status, hives, Quincke’s edema) Interim certification (set)	3,4	Completion of creative assignments Interactive polling/survey Testing in the Moodle system	30 min. (0.5 hours)/14.7%

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;

Distribution of marks in practical classes

№ Sl. No	The topic of the practical lesson	The theoretical part	The practical part	Overall assessment	Forms of control
1.	Bronchial asthma	2-5	2-5	2-5	**The theoretical part** unwritten or written survey -Test tasks, including computer ones **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
2.	Chronic obstructive pulmonary disease	2-5	2-5	2-5	
3.	Differential diagnosis of bronchial obstruction syndrome	2-5	2-5	2-5	
4.	Pneumonia	2-5	2-5	2-5	
5.	Differential diagnosis of pneumonia. Pneumonia complications	2-5	2-5	2-5	
6.	Pleurisy	2-5	2-5	2-5	
7.	Respiratory and pulmonary heartfelt insufficiency	2-5	2-5	2-5	
8.	Alveolitis	2-5	2-5	2-5	
9.	Dissemined lung diseases. Sarcoidosis	2-5	2-5	2-5	
10.	Emergencies (anaphylactic shock, asthmatic status, hives, Quincke's edema) Interim certification (set)	2-5	2-5	2-5	
Academic medical case record				2-5	
Average score					

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=15120

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=628

The final assessment for ongoing knowledge monitoring is calculated and recorded on the day of the session as the arithmetic mean of all performance results across all learning activities specified in the course curriculum for that particular session.

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»

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.

Assessment Criteria for Intermediate Certification

The intermediate certification (pass/fail evaluation) consists of the following stages:

Test-based assessment conducted in the Moodle system.

Access mode: https://educ-amursma.ru/mod/quiz/view.php?id=15175

Total number of test items: 344

The assessment includes the following components:

1. Defense of an academic medical case record
2. Evaluation of practical clinical skills
3. Oral examination on key control questions
4. Clinical case scenario resolution

Conversion to binary grading scale follows this scheme:

5-point grading scale	Binary scale
«5»	**Pass**
«4»	**Pass**
«3»	**Pass**
«2»	Fail

Assessment Criteria for Intermediate Certification

A grade of **"Pass"** is awarded when the student has fully mastered the course material, demonstrates organized comprehension of the subject matter, presents answers competently and coherently, makes no more than 30% errors in testing, and has acquired all practical skills and competencies specified in the course curriculum. A grade of **"Fail"** is given when the student shows fragmented and unsystematic knowledge, cannot differentiate between primary and secondary concepts, makes fundamental errors in defining terms or distorts their meaning, presents material in a disorganized and uncertain manner, commits more than 30% errors in testing, or demonstrates significant deficiencies in performing required practical skills.

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.

Extracurricular independent work 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**
Bronchial asthma	**2**	Preparation of theoretical questions (studying lecture materials, core and supplementary literature, methodological guidelines, abstracting, compiling notes, diagrams, algorithms, etc.). Solving (or composing) problems, tests, writing prescriptions, algorithms, completing template-based assignments, documenting medical histories, maintaining workbooks, working in online classroom. Preparation for thematic patient case presentation.	Report or computer presentation on the topic: "Churg-Strauss syndrome", "Cystic fibrosis", "Phenotypes of bronchial asthma"
Chronic obstructive pulmonary disease	**2**	Preparation of theoretical material (including lecture review, study of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Problem solving (or problem design), test completion, prescription writing, algorithm development, template-based assignments, medical record documentation, and workbook maintenance.	Report or computer presentation on the topic: "Differential diagnostics of bronchial obstruction syndrome", "Congenital anomalies of the development of the bronchopulmonary system"
Differential diagnosis of bronchial obstruction syndrome	**2**	Preparation of theoretical material (including: lecture study, review of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Completion of practical tasks (including: solving/designing problems and tests, writing prescriptions and algorithms, performing template-based assignments, documenting medical case records, maintaining workbooks, participating in online classroom activities).	Report or computer presentation on the topic: "Overlap syndrome: combination of asthma and COPD"; "Sanatorium and resort treatment for respiratory diseases"

Pneumonia	**2**	Preparation of theoretical material (including: lecture study, review of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Completion of practical tasks (including: solving/designing problems and tests, writing prescriptions and algorithms, performing template-based assignments, documenting medical case records, maintaining workbooks, participating in online classroom activities).	Preparation of a presentation or production of a table, tablet on the topic: "Community-acquired pneumonia and influenza: a comprehensive view of the problem", "Complications of pneumonia. Diagnostic algorithm"
Differential diagnosis of pneumonia. Pneumonia complications	**2**	Preparation of theoretical questions (studying lecture materials, core and supplementary literature, methodological guidelines, abstracting, compiling notes, diagrams, algorithms, etc.). Solving (or composing) problems, tests, writing prescriptions, algorithms, completing template-based assignments, documenting medical histories, maintaining workbooks, working in online classroom. Preparation for thematic patient case presentation.	Preparation of a presentation or abstract review on the topic: "Current issues of diagnostics and treatment of pulmonary embolism", "Lung cancer", "Bronchiectatic disease"
Pleurisy	**2**	Preparation of theoretical material (including: lecture study, review of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Completion of practical tasks (including: solving/designing problems and tests, writing prescriptions and algorithms, performing template-based assignments, documenting medical case records, maintaining workbooks, participating in online classroom activities).	Preparation of a presentation or abstract review on the topic: "Tuberculosis pleurisy: features of the clinical course and treatment at the present stage", "Meigs syndrome"
Respiratory and pulmonary heartfelt insufficiency	**2**	Preparation of theoretical material (including: lecture study, review of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Completion of practical tasks (including: solving/designing problems and tests, writing prescriptions and algorithms, performing template-based assignments, documenting medical case records, maintaining workbooks, participating in online classroom activities).	Prepare a presentation or abstract on the topic: "Primary pulmonary hypertension", "Pickwick's Syndrome."
Alveolitis	**2**	Preparation of theoretical questions (studying lecture materials, core and supplementary literature, methodological guidelines, abstracting, compiling notes, diagrams, algorithms, etc.).	Making a tablet or table on the topic: "Allergic bronchopulmonary

		Solving (or composing) problems, tests, writing prescriptions, algorithms, completing template-based assignments, documenting medical histories, maintaining workbooks, working in online classroom. Preparation for thematic patient case presentation..	aspergillosis" "Drug-induced lung lesions. Toxic fibrosing alveolitis"
Dissemined lung diseases. Sarcoidosis	**1**	Preparation of theoretical material (including lecture review, study of core and supplementary literature, methodological guidelines, abstracting, note-taking, creating diagrams and algorithms, etc.). Problem solving (or problem design), test completion, prescription writing, algorithm development, template-based assignments, medical record documentation, and workbook maintenance.	Preparation of a presentation or abstract review on the topic: "Pulmonary alveolar proteinosis". Preparation of a case history for the final lesson
Emergencies (anaphylactic shock, asthmatic status, hives, Quincke's edema) Interim certification (set)	**1**	Theoretical preparation (studying lecture materials, core and supplementary literature, methodological guidelines; preparing summaries, notes, diagrams, algorithms, etc.). Practical work (solving/creating problems and tests, writing prescriptions and algorithms, completing template-based assignments, documenting medical case records, maintaining workbooks, preparing for case presentations).	Preparation of a presentation on the topic: "Allergic diseases in pregnant women: clinical features, diagnostics, treatment, prevention"
Interim assessment (credit)	**2**	Preparation for solving clinical case scenarios and intermediate knowledge assessment tests. Preparation for the oral examination on certification topics, practical skills evaluation, and defense of the academic medical case record.	
Labor intensity in hours	**20**	**20**	**4**
Total labor intensity in hours	**24**		

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 volumes. Vol. I: textbook: in 2 volumes / edited by A. I. Martynov, Zh. D. Kobalava , S. V. Moiseev. - 4th ed . reworked - Moscow : GEOTAR-Media, 2023. - 784 p. - ISBN 978-5-9704-7231-6. - Text : electronic // EBS “Student Consultant”: [website]. - URL : https://www.studentlibrary.ru/book/ISBN9785970472316.html (date of access: 08.11.2024). - Access mode : by subscription.
2. Internal diseases: in 2 volumes. Vol. II: textbook / edited by A. I. Martynov, Zh. D. Kobalava , S. V. Moiseev. - 4th ed . reworked - Moscow : GEOTAR-Media, 2023. - 704 p. - ISBN 978-5-9704-7232-3. - Text : electronic // EBS “Student Consultant”: [website]. - URL : https://www.studentlibrary.ru/book/ISBN9785970472323.html (date of access: 08.11.2024). - Access mode : by subscription.

3.2 Additional literature

1. Berbentsova, E. P. Difficulties of clinical diagnostics and treatment in pulmonology: monograph / E. P. Berbentsova. - Moscow: GEOTAR-Media, 2020. - 200 p. (Stereotype edition of 2000) - ISBN 978-5-9704-6059-7. - Text: electronic // Electronic Library System "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970460597.html 1. (date of access: 26.04.2023). - Access mode: by subscription.
2. 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": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970464762.html 2. (date of access: 26.04.2023). - Access mode: by subscription.
3. Clinical allergology. A guide for practicing physicians / edited by N. M. Nenasheva, B. A. Chernyak. - Moscow: GEOTAR-Media, 2022. - 920 p. - ISBN 978-5-9704-6855-5. - Text: electronic // Electronic library system "Student Consultant": [website]. - URL:https://www.studentlibrary.ru/book/ISBN9785970468555.html (date accessed: 27.04.2023). - Access mode: by subscription.
4. Chuchalin, A. G. Pulmonology: monograph / ed. Chuchalina A. G. - Moscow: GEOTAR-Media, 2020. - 768 p. - ISBN 978-5-9704-5323-0. - Text: electronic // EBS “Student Consultant”: [website]. - URL: https://www.studentlibrary.ru/book/ISBN9785970453230.html 4. (date of access: 26.04.2023). - Access mode: by subscription.

3.3 Teaching Materials Prepared by Department Staff

1. Voitsekhovsky 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. Pneumonias During the A/H1N1 swl Influenza 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 Study Guide. Blagoveshchensk: Bukvitsa, 2010. 32 p.
5. Landyshev Yu.S., Grigorenko A.A., Dorovskikh V.A. The Endocrine System in Patients with Bronchial Asthma. Blagoveshchensk, 2013. 155 p.

Electronic and Digital Technologies:
Multimedia presentations (Microsoft PowerPoint 2016) for lecture-type classes according to the thematic lecture plan. https://educ-amursma.ru/mod/folder/view.php?id=15186

Available at the department (CD-ROMs).
Multimedia Presentations:
1. Bronchial Obstruction Syndrome
2. Pneumonias
3. Diagnosis of Allergic Diseases
4. Bronchial Asthma
5. Chronic Obstructive Pulmonary Disease (COPD)
6. Allergic Diseases in Children
7. New Horizons in COPD Treatment
8. Educational Film: Inhalation Therapy
9. Severe Bronchial Asthma: Prospects for Monoclonal Antibody Use
10. Pleuritis
11. European Consensus on Diagnosis and Therapy of Cystic Fibrosis
12. Selected Lectures by Academician A.G. Chuchalin (Russian Academy of Medical Sciences)
13. Respiratory Medicine of the 21st Century: School of Academician A.G. Chuchalin (Russian Academy of Medical Sciences). Series of Multimedia Lectures
14. Modern Aspects of Diagnosis and Treatment of Pulmonary Arterial Hypertension
15. Clinical Guidelines "Chronic Obstructive Pulmonary Disease" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - Moscow, 2024)
16. Clinical Guidelines "Acute Bronchitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - Moscow, 2024)
17. Clinical Guidelines "Chronic Bronchitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - Moscow, 2024)
18. Clinical Guidelines "Community-Acquired Pneumonia in Adults" (Ministry of Health of the Russian Federation, Russian Respiratory Society. Moscow, 2024)
19. Clinical Guidelines "Pulmonary Emphysema" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - Moscow, 2024)
20. Clinical Guidelines "Hypersensitivity Pneumonitis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. Moscow, 2024)
21. Clinical Guidelines "Idiopathic Pulmonary Fibrosis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. - Moscow, 2024)
22. Clinical Guidelines "Sarcoidosis" (Ministry of Health of the Russian Federation, Russian Respiratory Society. Moscow, 2024)
23. Clinical Guidelines "Viral Pneumonias" (Ministry of Health of the Russian Federation. Moscow, 2024)

Lectures (CD):
1. Respiratory Physiology
2. Clinical Pharmacology
3. Respiratory Pathology
4. Diagnosis and Symptoms of Respiratory Diseases
5. Infectious Lung Diseases
6. Chronic Obstructive Pulmonary Disease (COPD)
7. Neoplastic Processes in the Lungs
8. Pathology of Pulmonary Circulation
9. Interstitial and Infiltrative Lung Diseases
10. Pleural Pathology

11. Efficacy and Safety of β_2 -Agonists
12. Severe Bronchial Asthma
13. Radiological Diagnosis of Respiratory Diseases
14. Malignant Lung Tumors
15. Acute and Chronic Cor Pulmonale
16. Spontaneous Pneumothorax
17. Potential of Nebulizer Therapy
18. Modern Concept of Interstitial Pneumonias: A Clinician's Perspective
19. Respiratory Diseases and Comorbid Conditions in Humans
20. Pulmonary Emphysema
21. Differential Diagnosis of Asthma and COPD

Educational Video Films and Photographic Materials (prepared by department staff)

Video Films (DVD):

1. Propaedeutics of Internal Medicine
2. Spirometry Technique
3. Bronchodilation Test Methodology

Photographic Materials:

1. Photo demonstration of patients with different COPD phenotypes
2. Photo demonstration of a patient with Stevens-Johnson syndrome
3. Photo atlas on cystic fibrosis
4. Photo atlas on complications of systemic glucocorticoid therapy

Educational Visual Aids:

Wall Charts:

1. Pneumonias
2. Diagnosis of bronchial asthma
3. Chronic obstructive pulmonary disease (COPD)
4. Differential diagnosis of bronchial obstruction syndrome
5. Chronic cor pulmonale
6. Pleuritis

Tables

1. Lung Abscess
2. Pulmonary artery thromboembolism
3. Rational combinations of antibacterial drugs
4. Pickwickian syndrome
5. Wegener's granulomatosis (Granulomatosis with polyangiitis)
6. Bronchiectasis
7. Bronchial asthma
8. Bronchial asthma in pregnant women
9. Treatment of bronchial asthma
10. Classification of bronchial asthma exacerbation severity
11. Complications of systemic glucocorticoid therapy
12. Chronic obstructive pulmonary disease (COPD)
13. Pneumonia severity criteria
14. Sarcoidosis
15. Cor pulmonale
16. Pleuritis
17. Classification of respiratory failure
18. External respiration function parameters
19. Degrees of lung ventilation impairment
20. Indications for peak flowmetry in bronchial asthma patients
21. Classification of respiratory failure by severity

Albums:

1. Bronchial Asthma
2. Differential Diagnosis of Bronchial Obstruction Syndrome

3. Chronic Obstructive Pulmonary Disease (COPD)
4. Pneumonias
5. Antibacterial Therapy for Community-Acquired Pneumonias
6. Differential Diagnosis of Pleural Effusion
7. Pulmonary Artery Thromboembolism
8. Cystic Fibrosis
9. Bronchiectasis
10. Differential Diagnosis of Disseminated Lung Diseases
11. Stevens-Johnson Syndrome
12. Fibrosing Alveolitis
13. Sarcoidosis
14. Antibacterial Drugs in Tables and Diagrams
15. Idiopathic Pulmonary Fibrosis
16. Risk Factors and Clinical Presentation of Pulmonary Artery Thromboembolism

Handout materials include electrocardiograms (ECG), spirograms, clinical and biochemical blood test forms, sputum analysis forms, chest radiographs, Asthma Control Test (ACT) and COPD Assessment Test (CAT) forms, peak flowmetry diaries, demonstration medications (pharmaceutical agents used in pulmonological and allergological practice, various drug delivery systems for respiratory administration), clinical case problems, test questions, archived medical records, thematic study albums, and specialized medical care standards for the topics being studied.

3.4 Equipment used for the educational process

№Sl. No	Name	Quantity
Study room №6		
1	Educational board	**1**
2	Teacher's desk	**1**
3	Study table	**6**
4	Chair	**12**
5	Negatoscope	**1**
6	Pulse oximeter	**1**
7	Thematic stands	**3**
8	Folder-booklet with a set of radiographs	**4**
	Accreditation and Simulation Center (Room 3)	
9	Table	**1**
10	Bedside table	**1**
11	Video monitoring and recording system for the simulation training process	**1**

12	Medical bed	**1**
13	Medical table	**1**
14	Treatment table	**1**
15	Patient simulator simulating an adult male for skill training	**1**
16	Robot simulator for training advanced cardiopulmonary resuscitation skills	**1**
17	CPR Dummy	**1**
18	training mannequin with defibrillation capability	**1**
19	Pulse oximeter	**1**
20	Glucometer	**1**
21	Airway Management Simulator	**1**
22	Adult resuscitation simulator	**1**
23	Phantom resuscitation	**1**
Bronchoscopy room of the State Autonomous Healthcare Institution of the Arkhangelsk Region "Amur Regional Clinical Hospital"		
24	Bronchofibroscope BF-P 60	**1**
25	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 AA 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 № 41AA 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=15120
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/mod/quiz/view.php?id=15128

Total number of tests – 100.

Examples of Moodle tests (initial control)

Please provide one correct answer:

1. NOSOCOMIAL PNEUMONIAS ARE MOST FREQUENTLY CAUSED BY MICROORGANISMS: A) PNEUMOCOCCUS; B) STAPHYLOCOCCUS; C) LEGIONELLA; D) MYCOPLASMA; E) GRAM-NEGATIVE FLORA. SELECT THE CORRECT COMBINATION OF ANSWERS
    1) b, c, d
    2) d, e
    3) b, e
    4) a, e
2. WHEN USING INHALED GLUCOCORTICOIDS AT STANDARD DOSES, THE FOLLOWING ADVERSE EFFECTS MAY DEVELOP: A) OROPHARYNGEAL CANDIDIASIS; B) GASTROINTESTINAL TRACT ULCERS; C) DYSPHONIA; D) STEROID-INDUCED DIABETES; E) FREQUENT NASOPHARYNGEAL INFECTIONS. SELECT THE CORRECT COMBINATION OF ANSWERS.
    1) a, c
    2) a, b, d, e
    3) a, e
    4) a, b,
3. A STAFF MEMBER AT A LARGE HOTEL EQUIPPED WITH AIR CONDITIONING SYSTEMS ACUTELY DEVELOPED A FEVER UP TO 40°C, CHILLS, COUGH WITH SPUTUM, HEMOPTYSIS, CHEST PAIN DURING BREATHING, MYALGIA, NAUSEA, AND DIARRHEA. CHEST X-RAY REVEALED INFILTRATIVE CHANGES IN BOTH LUNGS. SEVERAL DAYS EARLIER, A COWORKER HAD BEEN HOSPITALIZED WITH PNEUMONIA. WHAT IS THE MOST LIKELY CAUSE OF THIS PNEUMONIA?
    1) Klebsiella
    2) Legionella
    3) Mycoplasma pneumoniae
    4) Pfeiffer's bacillus
4. CONDITIONS PREDISPOSING TO LUNG ABSCESS DEVELOPMENT INCLUDE: A) ALCOHOL ABUSE; B) AIDS; C) DRUG ADDICTION; D) BRONCHIAL FOREIGN BODY; E) NEUTROPENIA IN HEMATOLOGIC MALIGNANCIES. SELECT THE CORRECT COMBINATION OF ANSWERS.
    1) a, c, d
    2) a, e
    3) a, c, d
    4) a, d
5. CORRECT STATEMENTS REGARDING ATOPIC BRONCHIAL ASTHMA INCLUDE: A) OFTEN DEVELOPS IN ELDERLY AGE; B) ASSOCIATED WITH OTHER ATOPIC DISEASES; C) ELEVATED BLOOD IGE LEVELS; D) DECREASED BLOOD IGE LEVELS; E) CHARACTERIZED BY BLOOD EOSINOPHILIA. SELECT THE CORRECT COMBINATION OF ANSWERS.
    1) c, d
    2) a, e
    3) a, c, d
    4) b, c, d

Answer samples: 1-3, 2-1, 3-2, 4-1, 5-4.

Examples of test tasks in the Moodle system (final control):
Indicate one correct answer:

1. HEMOPYTHIASIS IS OBSERVED IN THE FOLLOWING DISEASES: A) PULMONARY EMBOLISM; B) BRONCHIOECTATIC DISEASE; C) LUNG CANCER; D) MITRAL STENOSIS; D) PULMONARY EMPHYSEMA. CHOOSE THE CORRECT COMBINATION
    1) б, в
    2) а, б, в
    3) а, в, г, д
    4) а, б, в, г
2. A PATIENT SUFFERING FROM BRONCHIAL ASTHMA AND HYPERTENSION COMPLAINS ABOUT THE DEVELOPMENT OF A DRY COUGH. SHE TAKES BECLOMETASONE, CAPTOPRIL DAILY AND SALBUTAMOL FOR DIFFICULT BREATHING 1-2 TIMES A WEEK. MOST LIKELY, THE APPEARANCE OF THE COUGH IS ASSOCIATED WITH
    1) with beclomethasone
    2) with salbutamol
    3) with captopril
    4) with a combination of beclomethasone and salbutamol
3. THE PATIENT HAS SYMMETRICAL CHEST MOVEMENTS, A BOXED SOUND ON PERCUSSION, WEAKENED VESICULAR BREATHING WITH A PROLONGED EXPIRATION, AND THE LIVER DULLNESS IS DISPLACED DOWNWARDS. YOUR DIAGNOSIS
    1) hydropneumothorax
    2) fibrosis
    3) diffuse pulmonary emphysema
    4) lobular pneumonia
4. THE PATIENT HAS A NORMAL CHEST SHAPE, NO MEDISTINAL DISPLACEMENT, A DULL SOUND ON PERCUSSION, VOICEOUS WHEEZING AND DISTINCTIVE CREPTATION. YOUR DIAGNOSIS
    1) pneumonia
    2) emphysema
    3) pneumothorax
    4) pulmonary fibrosis
5. ECHOCARDIOGRAPHICALLY IN PULMONARY CORN THE FOLLOWING ARE DETECTED
    1) hypertrophy and dilation of the right chambers of the heart
    2) hypertrophy and dilation of the left chambers of the heart
    3) dilation of all chambers of the heart
    4) left ventricular hypertrophy

Answer samples:1-4, 2-3, 3-3, 4-1, 5-1.

Test assignments of the midterm assessment
Test control is carried out in the Moodle system,
access mode: https://educ-amursma.ru/mod/quiz/view.php?id=15175
Total number of test tasks – 342

Examples of test tasks for midterm assessment (with sample answers)
Examples of test tasks in the Moodle system. Indicate one correct answer:

1. THE MOST COMMON CAUSATIVE AGENT OF BACTERIAL COMPLICATIONS IN COPD IS
A) pneumococcus
B) staphylococcus
C) mycoplasma
D) hemophilic bacillus

2. THE "GOLD STANDARD" FOR DIAGNOSIS AND ASSESSMENT OF COPD IS
A) spirometry
B) peak flowmetry
C) bronchoscopy
D) computed tomography

3. IN ATOPIC BRONCHIAL ASTHMA, A GENERAL BLOOD ANALYSIS FREQUENTLY FOUND
A) Lymphocytosis
B) neutrophilia
C) Eosinophilia
D) Thrombocytosis

4. FOR LAROBAR PNEUMONIA AT THE HEIGHT OF THE DISEASE, THE CHARACTERISTIC PERCUTION SOUND IS
A) box-like
B) dull
C) tympanic
D) metallic

5. DESTRUCTION OF LUNG TISSUE IS EVIDENCED BY THE DETECTION IN THE SPUTUM
A) Charcot-Leyden crystals
B) a large number of leukocytes
C) elastic fibers
D) a large number of erythrocytes
IN SEVERE ATOPIC BRONCHIAL ASTHMA, ABSENCE OF EFFECT FROM HIGH DOSES OF INHALATION GLUCOCORTICOSTEROIDS AND

6. COMBINATION DRUGS, THE ADDITION OF DRUGS FROM THE GROUP
A) mast cell membrane stabilizers
B) M-anticholinergics
C) antileukotrienes
D) anti-IgE antibodies is indicated

7. IN CASE OF COPD VACCINATION WITH
A) anti-meningococcal
B) anti-diphtheria
C) anti-influenza
D) anti-pertussis is MANDATORY

8. ANTIBACTERIAL DRUGS OF CHOICE IN A PATIENT WITH ACUTE TONSILLITIS WITH A HISTORY OF IMMEDIATE-TYPE ALLERGY TO PENICILLIN INCLUDE
A) aminopenicillins
B) anthracyclines
C) macrolides
D) fluoroquinolones

9. IN ACUTE BRONCHITIS, AGGRAVATED BY A PAINFUL NON-PRODUCTIVE COUGH (IN THE ABSENCE OF SUSPICION OF WHOOPING COUGH), THE USE OF NOT INDICATED
A) bronchodilators
B) Antibiotics
C) mucolytics
D) steam inhalation is

10. THE USE OF ANTIBACTERIAL THERAPY IN A PATIENT WITH ACUTE PAINFUL NONPRODUCTIVE COUGH IS JUSTIFIED IN
A) allergic reaction

B) heart failure
C) type 2 diabetes
D) suspected whooping cough

Answer samples 1-D, 2-A, 3-C, 4-B, 5-C, 6-D, 7-C, 8-C, 9-B, 10-D

4.2. Examples of situational tasks of current control

Case 1

Patient L., 28 years old, was admitted to the pulmonology department with complaints of asthma attacks occurring 4-6 times per day (including nighttime episodes), paroxysmal cough with difficult sputum production, shortness of breath with minor physical exertion, and nasal congestion. Medical history reveals she has suffered from polyposis rhinosinusitis since age 15. For the past 5 years, she has experienced cyclical seasonal symptoms (May-June) including watery eyes, nasal congestion and breathing difficulties. She has a history of allergic reactions to analgin (metamizole) manifesting as nasal congestion and breathing difficulties.

On examination, the patient's condition is of moderate severity with respiratory rate 22/min. Nasal breathing is severely impaired. Diffuse "warm" cyanosis is present. Lung percussion reveals hyperresonance (box-like sound), and auscultation detects abundant expiratory wheezes. Heart rate is 96 bpm, blood pressure 110/70 mmHg. Heart sounds are rhythmic but muffled.Initial blood test results show: hemoglobin 132 g/L, erythrocytes 4.6×10^{12}/L, leukocytes 7.6×10^{9}/L with neutrophils 65%, lymphocytes 19%, eosinophils. 10%; mon. - 6%, ESR - 12 mm/hr. Sputum analysis (general): consistency - viscous, character - mucous, leukocytes - 1-5 per field of view; eosinophils - 40-60 per field of view, Curschmann’s spirals, Charcot-Leyden crystals. Spirometry: VC - 86%; FEV1 - 62%; MEF25 - 56%; MEF50 - 50%; MEF75 - 48%. After inhalation of 400 mcg salbutamol: FEV1 - 84%; MEF25 - 68%; MEF50 - 59%; MEF75 - 52%. On chest X-ray examination: no focal or infiltrative changes detected; flattening of the diaphragmatic dome and increased lung radiolucency are observed.

Questions:

1. Formulate a clinical diagnosis.
2. Justify the diagnosis.
3. What are the classifications of the underlying disease?
4. Make a conclusion based on the spirogram.
5. What do the results of the salbutamol test indicate?
6. Prescribe treatment.
7. List the pharmacological groups of drugs for basic anti-inflammatory therapy.
8. List the pharmacological groups of drugs to relieve the symptoms of the disease.
9. List the medications that are contraindicated for the patient.
10. Possible complications of the disease.

Answer standard

1. Bronchial asthma, mixed form (atopic, aspirin), newly diagnosed, severe course. DN I - II st. Polypous rhinosinusopathy. Hay fever with manifestations of allergic rhinoconjunctivitis.
2. Syndromes: bronchial obstruction, hyperinflation of lung tissue and decreased elasticity, respiratory failure, aspirin triad.
3. Classification of bronchial asthma by clinical form (ICD-10): allergic, non-allergic, mixed, unspecified. Classification by clinical and pathogenetic variants, by severity, level of disease control.
4. Moderate impairment of pulmonary ventilation function by obstructive type. Salbutamol test is positive.
5. Sulbutamol test - a test with a bronchodilator, a positive result indicates reversibility of bronchial obstruction.
6. Inhalation glucocorticoids (preferably Pulmicort via a nebulizer), bronchodilator therapy (Berodual via a nebulizer), possibly symbicort or seretide, mucolytics.
7. Inhalation glucocorticoids, leukotriene antagonists, long-acting β2-agonists, long-acting methylxanthines, systemic glucocorticoids, cromones, anti-Ig E.
8. Short-acting β2-agonists, anticholinergics, short-acting methylxanthines, combined short-acting

bronchodilators, systemic glucocorticoids.

9. Non-steroidal anti-inflammatory drugs are contraindicated.
10. Pulmonary: asthmatic status, pulmonary emphysema, pneumosclerosis, pneumothorax, segmental or polysegmental pulmonary atelectasis, etc. Extrapulmonary: pulmonary heart disease, neurological complications, etc.

Case 2

Patient S., 62 years old, was admitted to the hospital with complaints of cough with mucopurulent sputum production, elevated body temperature up to 38.5°C, shortness of breath during moderate physical exertion, pain in the left half of the chest that worsens with coughing and deep inspiration, general weakness, and sweating. The illness began acutely 3 days ago after hypothermia. The patient self-administered paracetamol and bromhexine but experienced no improvement in condition. From the medical history it is known that the patient has been smoking for 20 years, 1-1.5 packs of cigarettes per day.

General condition of moderate severity, skin is clear. Body temperature - 38.2°C. No edema, peripheral lymph nodes are not enlarged. Respiratory rate at rest - 26 per minute. The chest is emphysematous, with lagging of the left half during breathing. Percussion reveals a box-like sound, dullness below the left scapular angle with increased vocal fremitus in the same area. Auscultation reveals dry buzzing wheezes on expiration and crepitation under the left scapular angle. Heart sounds are muffled, heart rate - 102 bpm, blood pressure - 118/76 mmHg. The abdomen is soft, non-tender. Liver and spleen are not enlarged. No dysuria.

Blood test results: hemoglobin - 152 g/L; erythrocytes - 5.2×10^{12}/L; leukocytes - 11.6×10^{9} /L; band neutrophils - 8%; segmented neutrophils - 66%; lymphocytes - 18%; eosinophils - 1%; monocytes - 7%; ESR - 36 mm/h. General sputum analysis: mucopurulent character, leukocytes - throughout; acid-fast bacilli not detected; Gram-positive diplococci identified. On chest X-ray in two projections: area of pulmonary tissue infiltration in the lower lobe of the left lung, pulmonary emphysema.

Questions:

1. Clinical diagnosis.
2. Rationale for diagnosis.
3. What criteria are used to assess the severity of the underlying disease?
4. What classifications of the underlying disease exist?
5. What additional examination methods are needed?
6. What type of pulmonary ventilation dysfunction do you suspect?
7. Treatment.
8. List possible complications of the underlying disease.
9. Criteria for diagnosing a protracted course of the disease.
10. List the risk factors for a protracted course of the disease.

Answer standard

1. Community-acquired pneumonia localized in the lower lobe of the left lung, moderate severity, acute phase. COPD, mixed type, moderate severity, DN - I-II st.
2. Syndromes: inflammatory compaction of lung tissue, intoxication, bronchitis, bronchial obstruction, hyperairiness of the lung tissue and decreased elasticity, respiratory failure, the presence of risk factors (long-term smoking).
3. Temperature, heart rate, respiratory rate, blood pressure, severity of intoxication, cyanosis, the presence and nature of complications, peripheral blood parameters, blood biochemistry, decompensation of concomitant diseases.
4. There is a clinical and pathogenetic classification of pneumonia: community-acquired, hospital (nosocomial), aspiration, pneumonia in individuals with an immunodeficiency state; etiologic classification (pneumococcal, staphylococcal, etc.), etiologic classification (ICD-10).
5. Clinical, biochemical blood tests in dynamics, sputum culture for microflora and sensitivity to antibiotics, blood gas composition, ECG, spirography, fibrobronchoscopy, chest X-ray in dynamics.
6. Mixed type of pulmonary ventilation dysfunction is possible.
7. AB therapy is prescribed initially - empirically, then - depending on the isolated microflora (the drugs of choice can be inhibitor-protected penicillins, third-generation cephalosporins, respiratory fluoroquinolones), bronchodilator therapy, preferably through a nebulizer, mucolytics, sanitation bronchoscopies - according to indications.
8. Pulmonary complications of pneumonia (pleurisy, pleural empyema, lung abscess and gangrene,

respiratory distress syndrome), extrapulmonary (acute pulmonary heart disease, infectious toxic shock, sepsis, anemia, DIC syndrome, myocarditis, endocarditis, pericarditis, meningitis).

9. If, despite the improvement of the clinical picture by the end of the 4th week from the onset of the disease, with antibacterial therapy, it is not possible to achieve complete radiographic resolution of focal infiltrative changes in the lungs.
10. Age over 55 years, alcoholism, smoking, the presence of concomitant diseases (COPD, CHF, diabetes, chronic renal failure, neoplasms, etc.), severe pneumonia, multilobar infiltration, high virulence of the pathogen, ineffectiveness of initial antibacterial therapy.

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

1. Interpret complaints, disease history, life history, features of allergic history, objective examination data (comparative and topographic percussion of the lungs, auscultation of the heart and lungs, gamma sonority, bronchophony, vocal fremitus) in a patient with a bronchopulmonary disease.
2. Highlight the main symptoms and syndromes, explain their pathogenesis.
3. Make a plan for examining a patient with respiratory diseases.
4. Interpret taking into account the norm: clinical blood test, biochemical blood test (fibrinogen, C-reactive protein, procalcitonin test, blood gases); sputum analysis (cytological, cultural); spirometry data, bronchodilator test, peak flowmetry, fibrobronchoscopy, X-ray examination results, allergy examination data.
5. Formulate and justify a clinical diagnosis based on the information received.
6. Conduct differential diagnostics for the main syndromes in pulmonology.
7. Prescribe treatment for the patient taking into account the clinical course of the disease, age, complications, and concomitant pathology.
8. Write prescriptions for prescribed medications and characterize the main groups of drugs.
9. Diagnose complications and provide emergency care during an attack of bronchial asthma, asthmatic status, and anaphylactic shock.
10. Make a plan for rehabilitation and preventive measures for bronchopulmonary diseases.

4.4 List of questions for credit - test

1. Bronchial asthma. Definition, risk factors, pathogenesis of bronchial asthma. Clinical-pathogenetic variants of the disease, classification by severity and control level. Clinical-functional diagnostic criteria.
2. Treatment of bronchial asthma. Stepwise approach, controller medications and emergency relief medications. Rehabilitation and preventive measures.
3. Methods of external respiratory function examination, indications and diagnostic value. Bronchodilator and bronchoconstrictor tests, indications, contraindications, methodology and diagnostic significance.
4. Management tactics for patients during bronchial asthma exacerbation, disease control levels.
5. Clinical course features of bronchial asthma in pregnant women, diagnostic criteria, control levels, approaches to medication prescription, prevention.
6. Status asthmaticus. Diagnostic criteria, classification. Emergency care.
7. Anaphylactic shock. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, complications, treatment.
8. Clinical course features of bronchial asthma in elderly patients, diagnostic criteria, control levels, approaches to medication prescription, prevention.
9. Chronic obstructive pulmonary disease (COPD). Definition, risk factors, pathogenesis. Classification. Clinical-functional diagnostic criteria.
10. Treatment of stable COPD. Importance of nebulizer therapy.
11. COPD exacerbation: definition, risk factors, classification, hospitalization indications, outpatient and inpatient treatment. Rehabilitation and preventive measures.
12. Clinical course features of COPD in elderly patients, diagnostic criteria, approaches to medication prescription, prevention.
13. Differential diagnosis of bronchial obstruction syndrome. Clinical-functional differentiating

criteria between bronchial asthma and chronic obstructive pulmonary disease. Asthma-COPD overlap syndrome (ACOS).

14. Pneumonia. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, complications.
15. Pneumonia: clinical course features depending on pathogen type, diagnostic criteria.
16. Pneumonia treatment. Hospitalization indications. Antibacterial therapy for pneumonia: empirical selection, stepwise therapy approach, efficacy criteria. Rehabilitation and preventive measures.
17. Clinical course features of pneumonia during influenza, ARVI. Diagnostic criteria, treatment, approaches to antiviral therapy prescription. Complications.
18. Clinical course features of pneumonia in pregnant women, diagnostic criteria, approaches to medication prescription, complications.
19. Clinical course features of pneumonia in elderly patients, diagnostic criteria, approaches to medication prescription, prevention.
20. Bronchiectasis, bronchiectatic disease. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, complications, treatment.
21. Cystic fibrosis. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, complications, treatment.
22. Churg-Strauss syndrome. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, complications, treatment.
23. Differential diagnosis of focal lung diseases (tuberculosis, cancer, bronchiectasis, pulmonary embolism, etc.). Main differentiating criteria.
24. Suppurative lung diseases (abscess, gangrene). Classification. Diagnostic methods. Main treatment principles. Treatment.
25. Congenital malformations of bronchopulmonary system (Kartagener syndrome, lung hypoplasia, Williams-Campbell syndrome, Mounier-Kuhn syndrome, Macleod's syndrome, etc.). Diagnostic criteria.
26. Differential diagnosis of pleural effusion (pleurisy in pneumonia, tuberculosis, pulmonary embolism, parasitic infections, pancreatitis, connective tissue diseases, pleural mesothelioma, Dressler syndrome, Meigs syndrome, etc.). Differentiating features, treatment.
27. Pulmonary heart failure (acute, subacute, chronic). Etiology and pathogenesis. Classification, diagnostic criteria, differential diagnosis. Treatment, rehabilitation and preventive measures.
28. Hypersensitivity pneumonitis. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, differential diagnosis, complications. Treatment, prevention.
29. Drug allergy: definition, risk factors, classification, pathogenesis, diagnostic criteria, differential diagnosis, treatment, prevention.
30. Idiopathic pulmonary fibrosis. Etiology and pathogenesis, risk factors, classification, severity levels, diagnostic criteria, differential diagnosis, complications. Treatment, prevention.