Ministry of Science and Higher Education of the Russian Federation
Federal State Autonomous Institution of Higher Education
“National Research Nuclear University “MEPhI”

INSTITUTE OF ENGINEERING PHYSICS FOR BIOMEDICINE

APPROVED НТС ИФИБ

Protocol No. 3.1

dated 30.08.2024

ACADEMIC COURSE OUTLINE

ИНФЕКЦИОННЫЕ БОЛЕЗНИ / INFECTIOUS DISEASES

Educational program track (speciality) [1] 31.05.01 General Medicine

Semester	**Labour input, credits**	**Total course academic, hours**	**Lectures, hrs.**	**Practical sessions, hrs.**	**Laboratory sessions, hrs.**	**In the form of practical studies, hrs.**	**Independent studies, hrs.**	**Independent studies monitoring, hrs.**	**Course progress, Exam/Pass-fail exam/Term**
10	5	180	16	40	0		70	0	Ex
9	3	108	20	40	0		48	0	PFE
Total	8	288	36	80	0	80	118	0	

ABSTRACT

The program of the discipline is compiled based on the requirements for the results of mastering the specialist degree program. The graduate (General Practitioner) must be prepared to solve tasks regarding the diagnosis, treatment, and prevention of diseases. In the process of mastering the discipline, students acquire knowledge, abilities, and skills in the diagnosis, treatment, and prevention of common, dangerous, and socially significant infectious diseases, in the management of patients with infectious profiles, and in the selection of optimal methods for the treatment and prevention of infectious diseases.

1. ACADEMIC COURSE GOALS AND OBJECTIVES

Goal of the discipline: The formation of competencies in the diagnosis, treatment, and prevention of common, dangerous, and socially significant infectious diseases.

Objectives of the discipline

- to form a system of knowledge regarding the etiology, pathogenesis, clinical manifestations, and methods of diagnosis, treatment, and prevention of infectious diseases;
- to form the readiness to identify main pathological conditions, symptoms and syndromes, and nosological forms of infectious diseases; to formulate a preliminary diagnosis and conduct a differential diagnosis;
- to form the ability to determine medical indications for the introduction of restrictive measures (quarantine) and to conduct anti-epidemic measures in the event of an infectious outbreak;
- to form abilities and skills in formulating a plan for the examination and treatment of infectious diseases, and interpreting the results of additional investigations in accordance with clinical guidelines for the purpose of establishing a diagnosis;
- to form the ability to provide medical care upon detection of signs of urgent and life-threatening conditions, including in emergency situations;
- to form abilities and skills in selecting rational treatments for infectious diseases, taking into account the severity of the disease and the danger to others, in accordance with clinical guidelines; to evaluate the efficacy and safety of prescribed treatments;
- to form the readiness to conduct measures for the prevention of infectious diseases, the promotion of a healthy lifestyle, and sanitary-hygienic education of the population;
- to develop clinical thinking and the ability to work with scientific literature and regulatory documents, including the maintenance of medical documentation and the processing (formation) of emergency notifications to appropriate services upon detection of an infectious disease.

2. PLACE OF THE ACADEMIC COURSE IN THE MAIN HIGHER EDUCATION CURRICULUM

The discipline is implemented within the framework of the basic part of the educational program. It is based on knowledge, abilities, and skills obtained during the study of such disciplines as pathological anatomy and pathological physiology, medical microbiology and virology, immunology, pharmacology, propaedeutics of internal diseases, diagnostic radiology, hygiene, dermatovenerology, and the faculty course of internal diseases.

The knowledge, abilities, and skills obtained as a result of mastering the discipline are necessary for the subsequent successful mastery of clinical disciplines and practices.

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
ОПК-2 [1] – Capable of conducting and monitoring the effectiveness of measures for prevention, healthy lifestyle promotion, and sanitary-hygienic education of the population	З-ОПК-2 [1] – Know: - regulatory foundations for conducting preventive medical examinations and health check-ups; - rules for implementing sanitary and anti-epidemic measures; - forms and methods of health education work; - sanitary rules and regulations; - national immunization schedule; - main hazardous and harmful occupational factors. У-ОПК-2 [1] – Be able to: - determine medical indications for imposing restrictive measures (quarantine) and conduct anti-epidemic measures in case of an infection outbreak; - conduct preventive medical examinations and health check-ups in accordance with current regulatory legal acts and other documents; - monitor the effectiveness of measures for disease prevention, health promotion, and sanitary-hygienic education of the population; - develop and implement health promotion programs aimed at eliminating harmful effects of environmental factors on human health; - establish cause-effect relationships between changes in health status and exposure to environmental factors. В-ОПК-2 [1] – Possess skills in: - organizing and conducting preventive medical examinations and health check-ups for the adult population to prevent the occurrence and/or spread of diseases and identify risk factors; - preparation (formation) and sending to the territorial office of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing an emergency notification upon detection of an infectious or occupational disease; -educating patients and their relatives on methods of self-monitoring key physiological indicators.
ОПК-4 [1] – Capable of using medical devices stipulated by the medical care procedures, as well as conducting patient examination for diagnosis establishment.	З-ОПК-4 [1] – Know: - modern diagnostic instrumental examination methods for patients, including functional, radiological, ultrasound, radionuclide diagnostics, and endoscopy; - diagnostic capabilities of instrumental examination methods; - medical devices stipulated by the procedure for providing medical care to the adult population in the "Therapy" specialty, and the equipment standard for a therapeutic room; - main medical devices stipulated by the procedures for providing medical care to the adult population in major surgical specialties, obstetrics, and gynecology; - indications for referring patients for instrumental examinations and functional diagnostics; - techniques for physical examination of patients using medical devices stipulated by procedures and considering medical care standards У-ОПК-4 [1] – Be able to: - use medical devices stipulated by the medical care procedure; - determine the required volume and

	content of instrumental and functional diagnostics to establish a diagnosis; - interpret results of the most common functional and instrumental diagnostic methods В-ОПК-4 [1] – Possess skills in: - using basic medical devices (stethoscope, blood pressure monitor, sphygmomanometer, pulse oximeter, height-weight scale, measuring tape, neurological hammer, scalpel, forceps, and other devices); - operating electrocardiographs and devices for measuring external respiratory function; - interpreting results of the most common functional and instrumental diagnostic methods
ОПК-6 [1] – Capable of organizing general nursing, providing primary medical care, ensuring the organization of work and making professional decisions in emergencies at the pre-hospital stage, in emergency situations, epidemics and in areas of mass destruction	З-ОПК-6 [1] – Know: - a set of measures for general nursing with diseases of various organs and systems; Signs of clinical and biological death; - indications for patient hospitalization for the most common diseases with typical progression. У-ОПК-6 [1] – Be able to: - organize care for patient when providing medical care in an outpatient setting; - determine the need for patient hospitalization; - ensure the organization of work in emergency situations, epidemics, and in mass casualty zones. В-ОПК-6 [1] – Possess skills in: - general care of a patient (general nursing); - providing first aid; - making medical decisions in emergencies at the prehospital stage, including in emergency situations, epidemics, and in mass casualty zones.
ОПК-7 [1] – Capable of prescribing treatment and monitoring its effectiveness and safety.	З-ОПК-7 [1] – Know: - pharmacological groups of medicinal drugs and their intended purposes; - mechanisms of action of pharmacological and non-pharmacological treatments, indications and contraindications for their use, side effects, and complications caused by their application; - methods for monitoring the effectiveness and safety of various treatment approaches. У-ОПК-7 [1] – Be able to: - make rational choices for pharmacological and non-pharmacological treatments based on clinical guidelines and in accordance with medical care standards; - develop a treatment plan for a disease or condition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - prescribe medications, medical devices, and therapeutic nutrition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - justify prescribed pharmacological and non-pharmacological treatments; - evaluate the effectiveness and safety of medications, medical devices, therapeutic nutrition, and other treatment methods. В-ОПК-7 [1] – Possess skills in: - administering medications through various routes of administration; - developing treatment plans for diseases or conditions considering diagnosis, age, disease course characteristics, and comorbidities; - assessing the effectiveness and safety of prescribed treatments.

Professional competencies in compliance with the goals and professional knowledge areas:

Professional activity goal	**Professional activity knowledge area**	**Professional competency code and title; Based on the professional standard, experience analysis**	**Code and title of competency-based rubrics**
medical			
Diagnostics of diseases and pathological conditions of the patients.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	ПК-3.2 [1] - Capable of conducting patient examinations to establish a diagnosis *The base:* Professional standard: 02.009	З-ПК-3.2[1] - Know: - clinical diagnosis establishment algorithm; - patient history-taking and physical examination methodology; - laboratory and instrumental research methods for health assessment to establish a diagnosis; - semiotics of diseases of different organs and systems; - structure, principles of the current International Statistical Classification of Diseases and Related Health Problems (hereinafter - ICD).; У-ПК-3.2[1] - Be able to: - conduct patient history-taking and physical examination; - interpret history, physical examination data, laboratory and instrumental results to recognize a condition or establish the presence/absence of a disease, establish a diagnosis; - distinguish and recognize in each specific case tissue damage, the reaction to it, and the form of adaptability; - develop a patient examination plan, justify the necessity and scope of laboratory and instrumental examination; - identify main pathological conditions, symptoms and syndromes, nosological forms in the patient according to the current ICD.;

			В-ПК-3.2[1] - Possess skills in: - patient history-taking and physical examination; Formulating a preliminary diagnosis; - developing a patient examination plan; Interpreting laboratory and instrumental results; - establishing a diagnosis considering the current ICD
Providing primary medical care in outpatient settings and day hospital settings.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	ПК-3.3 [1] - Able to provide primary medical care in an outpatient setting *The base:* Professional standard: 02.009	З-ПК-3.3[1] - Know: - general issues of organizing medical care for the population and organizing medical care for the adult population in outpatient settings, including at home; - features of medical care using telemedicine technologies; - Clinical picture, differential diagnosis, features of the course of the disease, complications and outcomes of internal diseases; - diagnostic criteria for the most common diseases of internal organs and systems; - indications for referring patients for specialist consultations according to clinical guidelines and considering relevant medical care standards; - indications for referring patients for specialized medical care in inpatient settings and day hospitals according to clinical guidelines and considering relevant medical care standards; - features of managing and treating elderly patients in outpatient settings. ; У-ПК-3.3[1] - Be able to: - perform differential diagnosis of internal

			diseases; - monitor the course of physiological pregnancy; - justify the need for referring patients to specialist consultations; - recognize the main and concomitant diseases; - assess disease or condition severity - the degree of organ and/or system damage or functional impairment due to the disease/condition or its complications; - determine management, examination and treatment tactics for patients with specific diseases (nosological units) depending on disease severity and condition, according to clinical guidelines and considering relevant medical care standards.; В-ПК-3.3[1] - Possess skills in: - conducting differential diagnosis with other diseases/conditions, including emergencies; - interpreting data obtained from patient consultations with specialists; - prescribing additional tests to clarify the diagnosis; - formulating a clinical diagnosis; - prescribing treatment according to clinical guidelines and considering relevant medical care standards.

4. PEDAGOGIC POTENTIAL OF THE COURSE

Pedagogic tracks/objectives	**Pedagogic goals (code)**
Professional education	Establishing conditions for: formation of responsibility for professional choice, professional development and professional decisions (B18)
Professional education	Establishing conditions for: formation of motivation to improve the quality of medical care to the population and the desire to follow the rules and norms of interaction between the doctor, colleagues and the patient, contributing to the creation of the most

	favorable environment for the patient's recovery (B34)

5. ACADEMIC COURSE STRUCTURE AND CONTENT

Academic course sections, their scope, terms of study and assessment:

No.	Academic course section name	Weeks	Lectures/ Practical (seminars)/ Laboratory sessions, hrs.	Compulsory current assessment (form*, week)	Maximum grade per section**	Section assessment (form*, week)	Competency-based rubrics
	9 Semester						
1	The First Section	1-8	10/20/0	T-6 (25)	25	T-8	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3
2	The Second Section	9-16	10/20/0	T-14 (25)	25	T-16	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3,

							В-ПК-3.3
	Totals for 9 Semester		20/40/0		50		
	Assessment events for 9 Semester				50	PFE	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3
	10 Semester						
1	The First Section	1-8	8/20/0	Т-6 (25)	25	Т-8	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3
2	The Second Section	9-15	8/20/0	Т-14 (25)	25	Т-15	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2,

							У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3
	Totals for 10 Semester		16/40/0		50		
	Assessment events for 10 Semester				50	Ex, Ex	З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3, З-ОПК-2, У-ОПК-2, В-ОПК-2, З-ОПК-4, У-ОПК-4, В-ОПК-4, З-ОПК-6, У-ОПК-6, В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ПК-3.3, У-ПК-3.3, В-ПК-3.3

* – abbreviated name of assessment

** – 100 maximum points per semester including a pass/fail exam and (or) an exam

Abbreviated current assessment forms and section assessment

Abbreviation	**Full name**
T	Testing
PFE	Pass/fail examination
Ex	Exam

SYLLABUS

Weeks	Topics / Content	Lect., hrs.	Pr./sem., hrs.	Lab., hrs.
	9 Semester	20	40	0
1-8	**The First Section**	10	20	0
1 - 4	**General issues of infectious diseases. Acute intestinal infections.** General issues of infectious diseases. Acute intestinal infections. Subject and content of the discipline "infectious diseases", its place in human pathology. Introduction to the problem of infectious diseases. The place of infectology in human pathology and the healthcare system. The doctrine of the general pathology of infectious diseases. Principles of the diagnosis of infectious diseases. Principles of the treatment of infectious patients. Rehabilitation and medical examination. Principles of the prevention of infectious diseases. Organization of the infectious disease service. Indications and organization of the hospitalization of infectious patients. Structure and operating mode of an infectious disease hospital. Typhoid fever and paratyphoid fever. Etiology: basic properties of the causative agent, its antigenic structure. Epidemiology: sources of infection, mechanisms of infection, routes of spread and transmission factors. Важность хронического носительства. Importance of chronic carriage. Epidemics and sporadic cases. Pathogenesis and pathological anatomy: invasion of the causative agent and multiplication in the lymph nodes, bacteremia and toxicosis. Pathogenesis of relapses and complications. Cyclical nature of the course of typhoid fever, clinical characteristics of the stages of the disease. Features of the modern course of typhoid fever. Diagnosis. Clinical-epidemiological criteria. Laboratory diagnosis: bacteriological and serological methods. Differential diagnosis with febrile states. Treatment. Salmonellosis. Definition. Causative agents of salmonellosis, principles of classification. Mechanism of infection. Routes of spread and transmission factors. Immunity and susceptibility. Pathogenesis and pathological anatomy. Clinical picture. Clinical classification. Periods of the disease. Clinical features of localized and generalized forms. Bacterial carriage. Complications. Prognosis. Clinical and laboratory diagnosis, role of epidemiological history. Differential diagnosis. Treatment. Methods of intensive care. Shigellosis. Basic properties of the causative agent. Modern classification. Distribution. Epidemiology of dysentery. Clinical picture. Main periods of the disease. Most important syndromes in the clinical picture of dysentery. Classification and characterization of clinical forms. Bacterial carriage. Complications of dysentery.	All 5 Online 0	10 0	0 0

	Prognosis. Diagnosis. Treatment. Rules for discharge from the hospital. Prevention. Dispensary observation.. Yersinia infection. Definition, classification. Basic information about the causative agent, reservoir in nature. Mechanisms of infection and routes of spread of the infection. Classification of forms of the disease. Characteristics of the main clinical periods of the disease. Complications and relapses. Prognosis. Diagnosis. Importance of clinical and epidemiological data. Laboratory methods of diagnosis. Differential diagnosis. Etiotropic therapy, selection of medicinal agents, doses, duration of treatment. Pathogenetic and symptomatic therapy. Prevention. Botulism. Definition. Characteristics of the basic properties of the causative agent. Toxin formation. Resistance of the causative agent and toxins in the external environment. Sources of infections and transmission factors of botulism. Mechanism of action of the toxin. Pathological changes in internal organs. Clinical picture. Early manifestations. Detailed clinical picture. Diagnosis. Diagnosis. Clinical-epidemiological criteria. Laboratory diagnosis. Biological test. Differential diagnosis. Treatment. Prevention.			
5 - 8	**Particularly dangerous infections. Viral hepatitis A, E** Cholera. Definition. Characteristics of the cholera vibrio. NAG-vibrio. Epidemiology. Sources of infection, mechanisms of infection, routes of spread, transmission factors. Modern features of the spread of cholera. Pathological anatomy and pathogenesis. Mechanism of action of the exotoxin. Classification of clinical forms of cholera. Clinical-epidemiological criteria. Laboratory diagnosis. Express diagnosis. Differential diagnosis. Principles of pathogenetic therapy. Intensive care. Antibacterial therapy. Discharge rules. Complex of preventive measures. Plague. Historical background. Modern epidemiological situation. Plague is a quarantine infection. Most important morphological and cultural properties of the causative agent. Mechanisms of infection and routes of spread of the infection. Pathogenesis and pathological anatomy. Phases of pathogenesis, pathological changes in organs and tissues. Clinical classification of plague. Periods of the disease, their clinical characteristics. Complications. Laboratory diagnosis, express diagnosis of plague. Treatment. Etiotropic therapy of various forms of plague. Pathogenetic therapy, symptomatic therapy. Rules for discharge from the hospital. Prevention. Viral hepatitis A. Definition. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical picture. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Vaccination. Viral hepatitis E. Definition. Prevalence. Features of epidemiology, etiology. Pathogenesis. Pathological anatomy. Clinical picture.	All		
		5	10	0
		Online		
		0	0	0

	Complications. Role of the hepatitis E virus in pregnant women. Diagnosis. Differential diagnosis. Prognosis. Prevention.			
9-16	**The Second Section**	10	20	0
9 - 12	**Helminthiases. Protozoal infections.** Helminthiases. Classification. Definition. History of the issue. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical picture. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Differential diagnosis. Anthelminthic therapy. Complex treatment of trichinellosis. Intensive care. Complex prevention. Veterinary measures. Malaria. Causative agents of malaria in humans. Sources and mechanisms of infection. Types of malaria foci. Determination of the degree of malaria endemicity. Susceptibility, immunity. Modern epidemiological situation. Pathogenesis and pathological anatomy. Pathogenesis of anemia, malarial coma, hemoglobinuria. Pathogenesis of early and late relapses of malaria. Pathological changes in organs and tissues. Clinical features of various forms of malaria. Early and late relapses. Severe and malignant forms of tropical malaria. Prognosis. Laboratory diagnosis. Differential diagnosis. Treatment. Relief of acute manifestations and relapses. Main antimalarial chemotherapeutic drugs, their mechanism of action. Treatment regimens. Intensive care for severe forms. Prevention. Giardiasis. Features of the causative agent. Transmission mechanism. Clinical forms. Laboratory diagnosis and treatment. Toxoplasmosis. Etiology, epidemiology, pathogenesis. Clinical classification and clinical picture. Features of the course in HIV-infected patients. Complications in pregnant women. Laboratory diagnosis and treatment. Amebiasis. Etiology, epidemiology, pathogenesis. Clinical classification and clinical picture. Intestinal and extraintestinal amebiasis. Complications. Laboratory diagnosis, treatment, and prevention.	All		
		5	10	0
		Online		
		0	0	0
13 - 16	**Viral and bacterial infections transmitted by the airborne droplet route** Influenza and ARVI. Novel coronavirus infection COVID - 19. Etiology, epidemiology, pathogenesis. Clinical picture and differential diagnosis, treatment and prevention of the disease. Complications. Indications for hospitalization. Operating mode of an infectious disease hospital. Quarantine measures. Specific and non-specific prevention. Vaccination. Meningococcal infection. Etiology. Epidemiology. Seasonality. Pathogenesis, pathological anatomy. Mechanism of development of	All		
		5	10	0
		Online		
		0	0	0

	infectious-toxic shock. Classification of forms of meningococcal infection. Clinical picture of meningitis. Diagnosis. Etiotropic and pathogenetic therapy. Treatment of infectious-toxic shock, acute adrenal insufficiency. Prevention. Diphtheria. Properties of the causative agent. Pathogenesis. Clinical picture. Diphtheria of the larynx (croup), stages of croup. Diphtheria of the nose. Rare localizations of diphtheria. Complications of diphtheria in adults. Diagnosis. Laboratory methods of investigation. Specific therapy. Pathogenetic therapy. Vaccine prevention.			
	10 Semester	16	40	0
1-8	**The First Section**	8	20	0
1 - 4	**Viral hepatitis B, C, D (parenteral hepatitises).** Viral hepatitis B. Etiology. Epidemiology. Clinical manifestations. Clinical-laboratory syndromes. Outcomes and prognosis of acute hepatitis B. Treatment. Principles and methods of emergency therapy of acute hepatic insufficiency. Prevention. Vaccination schedule. Viral hepatitis D. Features of its course, clinical picture, complications. Viral hepatitis C. Epidemiology. Pathogenesis. Clinical picture. Laboratory diagnosis. Modern pathogenetic and antiviral therapy. Prevention. Clinical examination and prevention.	All 4 Online 0	10 0	0 0
5 - 8	**Wound infections** Erysipelas. Etiology. Epidemiology. Pathogenesis. Pathology. Classification. Clinical picture. Features of the course of erysipelas in pregnant women, patients with diabetes mellitus and thrombophlebitis. Complications are local and generalized. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Tetanus. History. Most important properties of the causative agent. Formation of exotoxins. Resistance in the external environment. Distribution of the causative agent, mechanisms of infection. Immunity. Portal of entry of the infection, mechanism of action of the toxin. Pathogenesis of convulsive syndrome. Classification of tetanus. Main clinical manifestations. Early symptoms. Local form. Complications, prognosis. Modern approaches to diagnosis. Differential diagnosis. Features of specific and etiotropic therapy. Pathogenetic therapy. Methods of intensive care. Prevention and treatment of complications. Planned and emergency prevention. Rabies. Definition. Background. Prevalence. Etiology. Epidemiology. Pathogenesis. Clinical picture. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention.	All 4 Online 0	10 0	0 0

9-15	**The Second Section**	8	20	0
9 - 12	**Zoonotic infections. Infections transmitted by tick bite** Zoonotic infections. Infections transmitted by tick bite Brucellosis. Historical background. Characteristics of brucellosis. Sources of infection. Epizootics among animals. Mechanisms of infection and routes of spread of the infection. Pathogenetic stages of the development of brucellosis. Involvement of internal organs and the nervous system in brucellosis. Classification of clinical forms and phases of the disease. Clinical characteristics of subacute and chronic brucellosis. Involvement of the musculoskeletal system, nervous, cardiovascular and genitourinary systems. Residual brucellosis. Complications. Prognosis. Clinical-epidemiological and laboratory diagnosis. Differential diagnosis. Etiotropic therapy of acute and subacute forms. Doses of antibiotics, duration of the course. Vaccine therapy, indications, contraindications. Clinical examination. Anthrax. Definition. Key properties of the anthrax bacillus. Epidemiology. Reservoirs in nature, mechanisms of infection. Epizootological and epidemiological characteristics of the disease. Susceptibility, immunity. Pathogenesis and pathological anatomy. Clinical classification of anthrax. Incubation period. Course of the disease and development of main symptoms. Clinical characteristics of the disease. Complications. Prognosis. Diagnosis. Clinical and epidemiological diagnostic criteria, laboratory methods. Rapid diagnosis. Differential diagnosis. Treatment. Serum therapy for anthrax. Etiotropic agents. Pathogenetic and symptomatic therapy. Discharge rules. Prevention. Measures to prevent occupational and domestic infections. Tick-borne encephalitis. Etiology. Epidemiology. Transmission routes. Pathomorphology. Clinical manifestations. Classification. Complications. Reservoir, source of the disease. Seasonality. Forms of the disease. Main symptoms of the disease. Principles of diagnosis and treatment. Prevention. Tick-borne rickettsiosis. Definition. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical presentation. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Ixodid tick-borne borreliosis. Definition. Prevalence. Etiology. Epidemiology. Systemic clinical manifestations. Characteristics of erythema. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Acute and chronic borreliosis. Diagnostic criteria. Features of therapy.	All 4 Online 0	10 0	0 0
13 - 15	**Viral hemorrhagic fevers. HIV infection (AIDS).** Hemorrhagic fevers. Definition. History of research. Prevalence. Etiology.	All 4 Online	10	0

	Epidemiology. Pathogenesis. Pathoanatomy. Clinical presentation. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Yellow fever. Definition. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical presentation. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Ebola hemorrhagic fever. Definition. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical presentation. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. GLPS. Definition. History. Prevalence. Etiology. Epidemiology. Pathogenesis. Pathological anatomy. Clinical presentation. Complications. Diagnosis. Differential diagnosis. Treatment. Prognosis. Prevention. Source, mechanism of infection with GLPS. Pathogenesis, classification of GLPS. Main symptoms, periods of the disease, etiotropic, pathogenetic, and symptomatic therapy. Treatment of GLPS. Clinical examination. Differential diagnosis with leptospirosis. HIV infection and related diseases. Topic 1. HIV infection and related diseases (2 hours). HIV infection (AIDS). Virological characteristics. HIV as a global health problem. Current statistics. Routes of transmission. Factors contributing to infection. Pathogenesis and pathological anatomy. Opportunistic diseases and conditionally pathogenic infections. Damage to organs and systems. Etiological structure in different regions, clinical manifestations. Approaches to laboratory diagnosis. Antiretroviral therapy. Current approaches to treating different stages of the disease.	0	0	0

Abbreviated names of online options:

Abbreviation	**Full name**
EC	E-course
FtM	Full-text material
FtL	Full-text lectures
VM	Video materials
AM	Audio materials
Prs	Presentations
T	Tests
ERM	E-reference materials
IS	Interactive site

PRACTICAL SESSIONS TOPICS

Weeks	**Topics / Content**
	9 Semester
	Salmonellosis

	Preventive treatment is carried out in the infectious diseases department of Domodedovo Hospital. Patients with salmonellosis or acute gastroenteritis are referred for treatment and clinical evaluation. Salmonellosis. Definition. Etiology, characteristics of pathogens. Epidemiology, prevalence of salmonellosis among humans, birds, and animals, routes and factors of transmission, susceptibility, immunity, seasonality, nosocomial outbreaks. Pathogenesis of localized and generalized forms of salmonellosis, pathogenetic mechanisms of general toxic syndrome, secretory diarrhea, and dehydration. Classification of salmonellosis. Clinical manifestations of various variants of gastrointestinal and generalized forms of infection, bacteriocarrier status (acute, chronic, transient). Complications: hypovolemic, infectious-toxic, mixed shock. Laboratory diagnosis, specific methods of confirming the diagnosis. Differential diagnosis. Organization of treatment of patients at home, indications for hospitalization. Prescription of regimen, diet, pathogenetic (rehydration, antidiarrheal agents, biological preparations) and symptomatic therapy. Indications for etiotropic treatment, antibacterial drugs, doses, duration of administration. Rules for discharge, dispensary observation, preventive measures. Campylobacteriosis. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention. Care of patients in the infectious diseases department of Domodedovo Hospital.
	Shigellosis. Protozoan invasions. Patients with dysentery or acute enterocolitis are proposed for treatment and clinical analysis. Shigellosis. Definition. Etiology, pathogens, and their properties. Epidemiology, sources, mechanism, routes, and factors of infection transmission. Pathogenesis, pathological anatomy, mechanism of development of colitis syndrome, nature of damage to the mucous membrane of the colon. Classification of dysentery. Clinical and laboratory characteristics of various variants of acute shigellosis. Complications of dysentery, post-dysenteric conditions. Chronic dysentery, causes of development, variants of the course. Instrumental diagnostics, indications for rectomanoscopy, technique, description of the colon mucosa. Specific diagnosis of shigellosis. Differential diagnosis. Indications for mandatory hospitalization, organization of home treatment. Treatment: regimen, diet therapy, etiotropic, pathogenetic (rehydration, strengthening of the vascular wall, healing of the intestinal mucosa, biological preparations) and symptomatic therapy. Rules for discharge from the hospital, dispensary observation of convalescents in infectious disease departments of polyclinics, methods of prevention. Amebiasis. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention. Balantidiasis. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention.
	PTI. Botulism. PZ is carried out in the infectious diseases department of Domodedovo Hospital. Patients with PTI or acute gastroenteritis, as well as educational case histories of patients with botulism, are offered for treatment and clinical analysis. Foodborne toxic infections. Definition. Etiology, significance of opportunistic microorganisms (staphylococci, proteus, enterococci, klebsiella, citrobacter, spore-forming microbes and anaerobes, halophilic vibrios, associations of opportunistic bacteria) in the occurrence of toxic infections. Epidemiology, sources of pathogens, mechanism and factors of transmission, group nature of morbidity. Pathogenesis, pathological anatomy, the role of the toxigenic properties of pathogens when they accumulate in food products, the mechanism of development of secretory diarrhea, general toxic syndrome, and dehydration in foodborne infections. Classification. Clinical characteristics of toxic infections. Features of the clinical picture of PTI caused by various pathogens. Complications. Specific diagnosis of PTI (bacteriological examination, serological reactions with autotypes of pathogens). Differential diagnosis. Treatment: gastric lavage (technique), regimen, diet, pathogenetic

	therapy. Physician's approach to antibiotic therapy. Discharge rules, medical examination. Preventive measures. Botulism. Definition. Etiology, characteristics of the main properties of the pathogen and its toxin. Epidemiology, sources and factors of transmission. Pathogenesis, pathological anatomy, “targets” of botulinum toxin, mechanism of damage to the nervous system and development of various types of hypoxia (histotoxic, circulatory, hemic, ventilatory) and acute respiratory failure. Classification. Clinical presentation, symptoms of the initial period of the disease, characteristics of intoxication, gastrointestinal, and paralytic (ophthalmoplegic, bulbar, myasthenic) syndromes. Criteria for the severity of infection. Complications, aspiration pneumonia, myositis, acute respiratory failure, etc. Specific diagnosis: examination of food products, vomit, gastric lavage fluid, feces, blood in a toxin neutralization reaction in mice. Differential diagnosis. Treatment: specific therapy with antitoxin serum and antibiotic therapy, pathogenetic and symptomatic treatment. Methods of intensive care for respiratory disorders. Preventive measures.
	Cholera Patients with acute gastroenteritis and gastroenterocolitis are referred for treatment and clinical evaluation for differential diagnosis. Cholera. Definition. Etiology, classical cholera vibrio and El Tor vibrio, pathogenicity factors. Epidemiology, sources of infection, mechanism of infection, routes of spread and factors of transmission, epidemics and pandemics of cholera. Pathogenesis, pathological anatomy, mechanisms of development of diarrhea, water-electrolyte disorders, metabolic acidosis, cardiovascular disorders, pathogenesis of hypovolemic shock. Classification of cholera, degrees of dehydration. Clinical presentation, features of gastrointestinal syndrome, clinical manifestations of hypovolemic shock. Specific diagnosis of cholera: bacteriological and serological methods, rapid diagnosis, rules for collecting material. Differential diagnosis. Treatment: pathogenetic therapy taking into account the degree of dehydration of the patient. Stages and means of oral and parenteral rehydration. Methods of monitoring the effectiveness of therapy. Calculation of the volume and rate of administered solutions. Complications of infusion therapy. Antibiotic therapy for patients with cholera and vibrio carriers. Rules for discharge from the hospital, medical examination. Preventive and quarantine measures. Escherichia coli infections. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention.
	Typhoid fever. Patients with typhoid fever or acute gastroenterocolitis, prolonged fever for differential diagnosis, as well as educational case histories are offered for curation and clinical analysis. Typhoid fever. Definition. Etiology, properties, and antigenic structure of the pathogen. Epidemiology, sources, mechanism, routes and factors of transmission, the role of chronic carriers in the spread of typhoid fever. Pathogenesis, introduction of the pathogen, multiplication in the lymphatic formations of the intestine and regional lymph nodes, bacteremia and toxemia, parenchymal dissemination and focal lesions, excretory-allergic phase, formation of immunity, causes of relapses and chronic bacteriocarrier status. Pathological anatomy, morphological changes in the intestine. Clinical classification. Cyclical course of typhoid fever. Clinical features of different periods of the disease, types of temperature curves, disorders of the central nervous system, statustyphosus, characteristics of the rash, lesions of the gastrointestinal tract, cardiovascular system, and bone marrow. Features of modern typhoid fever. Exacerbations and relapses. Specific complications: ITSH, perforation, intestinal bleeding. Diagnosis: bacteriological and serological methods (Vidal reaction, RNGA with erythrocyte diagnosticums O, H, and Vi, immunofluorescence method for rapid diagnosis), examination of patients with prolonged fever. Differential diagnosis. Treatment: importance of regimen and diet, including the prehospital stage, mandatory hospitalization, principles and means of antibiotic therapy,

	pathogenetic treatment. Emergency therapy for complications of typhoid fever. Rules for discharge and follow-up examination of convalescents. Prevention. Paratyphoid A and B. Etiology, epidemiology, pathogenesis: similarities and differences with typhoid fever. Main clinical symptoms of paratyphoid A and B. Differential diagnosis with typhoid fever. Laboratory diagnosis. Treatment, prevention.
	Yersiniosis. Brucellosis. Patients with yersiniosis and pseudotuberculosis, gastroenteritis, hepatitis, prolonged fever, or case histories are offered for treatment and clinical analysis. Yersiniosis: pseudotuberculosis, intestinal yersiniosis. Definition. Etiology, main properties of pathogens. Epidemiology, sources, routes, factors of transmission, and seasonality of pseudotuberculosis and yersiniosis; humans as a source of infection in intestinal yersiniosis. Pathogenesis, entry points of infection, stages of development: enteral, lymphadenitis, bacteremia and toxemia, organ damage, the importance of sensitization of the body, pathogenesis of exacerbations and relapses. Classification. Clinical manifestations of various forms and variants of infections, similarities and differences between the clinical picture of pseudotuberculosis and intestinal yersiniosis. Complications. Diagnosis: bacteriological and immunological studies at different stages of the disease (ELISA, RA, RNGA, RSK, coagglutination reaction). Differential diagnosis. Treatment: etiotropic (drugs, doses, and duration of treatment) and pathogenetic therapy, indications for surgical treatment. Discharge rules, dispensary observation. Prevention. Brucellosis. Definition. Etiology, characteristics of the pathogen, L-forms of brucella. Epidemiology, epizootics of brucellosis among animals, mechanisms, routes, and factors of infection spread, occupational and domestic nature of morbidity. Pathogenesis, phases of brucellosis development, primary and secondary foci of infection, infectious-allergic nature of lesions, generalized lesions and the formation of specific changes in the MFS. Classification of brucellosis. Clinical manifestations. Acute brucellosis, initial manifestations, changes in various organs and systems. Clinical picture of subacute brucellosis. Chronic brucellosis, its forms, lesions of the musculoskeletal system, nervous, cardiovascular, and urogenital systems. Diagnostic methods: bacteriological, serological, allergological. Differential diagnosis. Treatment: etiotropic, pathogenetic, and symptomatic therapy of acute brucellosis. Features of the treatment of subacute and chronic brucellosis. Sanatorium-resort treatment of patients with chronic brucellosis and the consequences of past brucellosis. Medical examination of recovered patients and professional contingents. Preventive measures.
	Viral gastroenteritis. Patients with rotavirus, enterovirus infections, or acute gastroenteritis are referred for treatment and clinical evaluation. Rotavirus gastroenteritis. Current status of the problem. Definition. Etiology, characteristics of rotaviruses. Epidemiological features. Pathogenesis, virus entry into enterocytes (enterotropism), virus reproduction, epithelial damage, disruption of membrane and cavity digestion, development of osmotic diarrhea. Classification. Clinical picture, features of intoxication, catarrhal, gastrointestinal syndromes, and dehydration. Diagnosis, virological and serological studies. Differential diagnosis. Treatment, regimen, dietary features, etiotropic, pathogenetic, and symptomatic therapy. Home treatment program for patients. Discharge rules. Preventive measures. Features of norovirus, calicivirus, astrovirus, and other viral diarrhea. Enterovirus infections. Definition. Etiology, characteristics of viruses. Epidemiology, sources, routes and factors of transmission, susceptibility, immunity, seasonality of infection. Pathogenesis of the disease. Classification. Clinical manifestations of various forms of enterovirus infection, characteristics of intoxication, catarrhal, gastrointestinal, meningeal syndromes, herpangina, exanthema, hepatosplenomegaly, etc. Complications. Laboratory diagnosis, specific methods of confirming the diagnosis. Differential diagnosis. Organization of treatment for patients at

	home, indications for hospitalization. Prescription of regimen, diet, etiotropic, pathogenetic, and symptomatic therapy. Rules for discharge, dispensary observation, prevention.
	Helminthiasis Patients with helminthiasis or educational case histories are offered for curation and clinical analysis. Student reports on individual helminthiasis cases are used. The relevance of helminthiasis. General patterns of the pathological process, factors of helminth impact on the human body (mechanical, sensitizing, toxic, etc.). Stages (phases) of helminthiasis development. Dependence of the clinical picture on the type of helminth, its localization in the host's body, the intensity of the invasion, and the reactivity of the macroorganism. Deworming, features of therapy in the acute and subacute stages of helminthiasis, in helminthiasis with the presence of larval stages of parasites. Antinematodic (vermoks, tiabendazole, combantrin, etc.), antitrematodic (chloxyl, ambilgar, etc.), and anti-cestodic anthelmintic drugs (praziquantel, etc.). Ways to prevent toxic and allergic reactions during the treatment of helminthiasis. Issues of specific helminthology. Ascariasis, taeniarhynchiasis, teniasis, diphyllobothriasis, trichinosis, opisthorchiasis, echinococcosis, toxocariasis, dirofilariasis, enterobiasis. Etiology, epidemiology, life cycle of helminths, pathogenesis of invasion, clinical picture, differential diagnosis, methods of diagnosis, treatment, and prevention.
	Hepatitis A and E Patients with hepatitis A are referred for treatment and clinical evaluation. Viral hepatitis A. Definition. Etiology. Epidemiological features. Pathogenesis, direct cytopathic effect of viruses on hepatocytes, mechanisms of jaundice, cytolysis, and other syndromes, morphological changes in the liver. Classification of viral hepatitis. Clinical presentation, duration of the incubation period, duration and variants of the pre-icteric period, clinical characteristics of syndromes and symptoms of the icteric period, convalescence. Clinical diagnostic criteria. Variants of the course. Outcomes and prognosis. Laboratory diagnosis using biochemical, immunological, and instrumental methods of investigation. Markers of hepatitis A. Differential diagnosis. Treatment, basic (regimen, diet, oral detoxification) and pathogenetic therapy. Rules for discharge, dispensary observation. Preventive measures. Viral hepatitis E. Definition. Etiology. Epidemiology. Pathogenesis, features of the course of the disease in pregnant women, effects on the fetus, mechanisms of erythrocyte hemolysis, acute hepatic-renal failure. Clinical presentation, features of the pre-icteric and icteric periods, severe course of the disease in pregnant women (termination of pregnancy, bleeding, development of DIC syndrome, hemoglobinuria, and hepatic-renal failure). Diagnosis, markers of hepatitis E. Management of pregnant women with viral hepatitis E.
	Hepatitis B, C, D Patients with hepatitis B, C, and D are referred for treatment and clinical evaluation. Viral hepatitis B. Etiology, antigenic structure of HBV. Epidemiology, source of infection, mechanism of transmission, artificial and natural routes of transmission, significance of blood-contact and sexual transmission, risk groups. Pathogenesis, mechanisms of immune-mediated damage to hepatocytes. Classification. Clinical presentation, incubation period, duration and clinical variants of the pre-icteric period, symptoms and syndromes of the icteric period, convalescence. Clinical diagnostic criteria, variants of the course, criteria for severity, complications, outcomes, and prognosis. Viral hepatitis C. Definition. Etiology, current understanding of the antigenic structure of the pathogen. Epidemiology, sources of infection, the significance of blood transfusions, administration of blood products, drugs, risk groups. Pathogenesis, features of the interaction between the virus and the body's immune system. Classification. Features of the clinical picture of acute hepatitis C, non-icteric and erased forms. Viral hepatitis D. Etiology, obligate relationship of the pathogen with the hepatitis B virus. Epidemiology, simultaneous infection with the hepatitis B virus (coinfection), infection of HBV convalescents, HBs-Ag carriers, and patients with chronic viral hepatitis B (superinfection). Pathogenesis, potentiation of the pathogenic effect of the

	hepatitis B virus by D infection, direct cytolytic effect of the D virus on hepatocytes, repeated replication of the D virus and exacerbation of the disease, features of the pathogenesis of co- and superinfection, the role of prolonged intrahepatocytic expression of the pathogen in the chronicity of the process. Classification. Clinical features, characteristics of the clinical picture of co- and superinfection. Diagnostic measures for parenteral viral hepatitis, immunological markers. Differential diagnosis. Treatment, basic therapy (regimen, diet, oral detoxification) and pathogenetic therapy, decision on the appointment of antiviral drugs and immunocorrective therapy. Discharge rules, dispensary observation. Preventive measures.
	10 Semester
1	**Chronic viral hepatitis (CVH).** Patients with chronic viral hepatitis B, C, D, and cirrhosis are referred for treatment and clinical evaluation. Chronic viral hepatitis. Current status of the problem. Etiology. Epidemiology. Pathogenesis, interaction between viruses and the body's immune system, factors contributing to the chronicity of the process, the formation of autoimmune extrahepatic lesions, primary liver cancer. Classification of chronic hepatitis. Clinical manifestations of chronic hepatitis B, C, D, extrahepatic lesions, outcomes. Diagnostic tactics when examining patients with chronic viral hepatitis. Differential diagnosis. Treatment, basic therapy, antiviral treatment (selection of drugs, regimens, and duration of treatment), pathogenetic and symptomatic therapy. Medical examinations. Preventive measures.
2 - 3	**Typhus, rickettsiosis..** Patients with prolonged fever, exanthema, and case studies are offered for review and clinical analysis. Typhus. Definition. Etiology, properties of Provachek's rickettsia, vegetative and spore forms. Epidemiology, source of infection, mechanism of infection. Pathogenesis, nature of vascular damage in various phases of pathogenesis, specific vasculitis and damage to the nervous system, formation of specific meningoencephalitis, damage to other internal organs, persistence of rickettsia in the human body, recurrence of typhus. Classification. Clinical presentation, cyclical nature of typhus, symptoms of the early stage of the disease, characteristics of the peak stage of the disease. Complications. Laboratory diagnosis, use of serological methods, examination of patients with prolonged fever. Differential diagnosis. Treatment: regimen, diet, etiotropic therapy (choice of antibacterial drug, dosage, duration of treatment), pathogenetic and symptomatic treatment. Discharge rules, medical examination, prevention. Brill's disease. Definition. Etiological identity of epidemic typhus and Brill's disease. Epidemiological, clinical, and immunological features in comparison with typhus. Q fever. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations of various forms of the disease, diagnosis and differential diagnosis, treatment, prevention. Tick-borne rickettsiosis. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention.
4 - 5	**Malaria. West Nile fever. Leishmaniasis.** Patients with nervous system damage, prolonged fever, and case histories are offered for treatment and clinical analysis. Malaria. Definition. Etiology, human malaria pathogens, parasite development cycles in mosquitoes (sporogony) and humans (schizogony), features of schizogony in certain species of plasmodia. Epidemiology, sources and vectors of infection, mechanisms of infection, spread of malaria. Pathogenesis, significance of plasmodium reproduction in human erythrocytes, mechanism of development of fever paroxysm, features of the pathogenesis of tropical malaria, pathogenesis of anemia, malaria coma, hemoglobinuria, early and late relapses. Classification. Clinical features, characteristics of the clinical course of malaria caused by various types of plasmodia, phases of a malaria attack, characteristics of intoxication syndrome, hepatosplenomegaly, anemia,

	jaundice, early and late relapses. Complications of malaria, malaria coma, malaria algid, hemoglobinuric fever, mechanisms of development and clinical manifestations. Diagnosis, microscopy of smears and thick blood drops, serological methods, examination of patients with prolonged fever. Differential diagnosis. Treatment, relief of acute manifestations of malaria and prevention of relapses, main antimalarial drugs, their mechanism of action, doses, duration of treatment, emergency therapy in case of complications. Prevention. West Nile fever. Leishmaniasis. Definition. Etiology, properties of the virus. Epidemiology, reservoir of infection, mechanism of transmission, vectors, seasonality. Pathogenesis, tropism of the virus to cells of the nervous system and vascular endothelium, possibility of persistence. Classification. Clinical presentation, characteristics of intoxication, catarrhal, and meningeal syndromes, focal neurological symptoms, damage to the heart and gastrointestinal tract, muscles and joints, exanthema, polylymphadenitis. Diagnosis. Differential diagnosis. Treatment. Prevention. Leishmaniasis. Definition. Etiology, stages, and properties of Leishmania. Epidemiology, sources and reservoirs of infection, vectors, seasonality, susceptibility. Pathogenesis, mechanisms of development of cutaneous and visceral leishmaniasis. Classification. Clinical manifestations of various forms of infection. Diagnosis and differential diagnosis. Treatment, use of pentavalent antimony preparations (solsurmin, glucantime), amphotericin B as etiotropic agents. Discharge rules, dispensary observation. Prevention.
6 - 7	**GLPS. Leptospirosis.** For supervision and clinical analysis, patients with GLPS, leptospirosis, serous meningitis, or educational case histories are proposed. GLPS. Relevance of the problem, Kirov Region as an active natural focus of infection. Definition. Etiology, pathogen and its main properties, virus serovars most pathogenic to humans. Epidemiology, sources and reservoirs, mechanism and routes of transmission, seasonality, susceptibility of the population. Pathogenesis, virus introduction, viremia and toxemia with the development of universal capillary toxicosis, mechanisms of development of hemorrhagic syndrome, damage to the respiratory organs and kidneys. Classification, cyclical nature of the disease. Clinical manifestations: intoxication-inflammatory and hemorrhagic syndromes, damage to the kidneys and respiratory organs, development of acute renal failure. Complications. Specific diagnosis using serological (RNIF) methods. Differential diagnosis, characteristics of Omsk and Crimean hemorrhagic fevers. Treatment: etiotropic drugs, pathogenetic and symptomatic therapy depending on the period of the disease. Emergency therapeutic measures for acute renal failure, indications for extracorporeal hemodialysis. Discharge rules, dispensary observation. Prevention. Leptospirosis. Relevance, definition. Etiology, characteristics of pathogens, serological types of leptospires. Epidemiology, reservoirs and sources of infection in nature, types of natural foci of leptospirosis, routes of transmission. Pathogenesis, leptospira penetration, parenchymal diffusion, mechanism of development of hemorrhagic and intoxication-inflammatory syndromes, damage to the liver, kidneys, cardiovascular and nervous systems, as well as other organs in various forms of leptospirosis. Classification of leptospirosis. Clinical manifestations of various forms of the disease. Complications. Laboratory diagnosis, agglutination and lysis reactions of leptospires. Differential diagnosis. Treatment, antibacterial drugs, doses, duration of treatment, anti-leptospirosis gamma globulin, pathogenetic therapy, treatment of acute renal and hepatic failure. Rules for discharge, dispensary observation. Preventive measures.
7 - 8	**Plague. Tularemia. Anthrax.** Patients with lymphadenopathy, tonsillitis, and pneumonia are referred for differential diagnosis and clinical evaluation. Plague. Definition. Etiology, properties of the pathogen. Epidemiology, reservoirs of the plague microbe in nature, natural foci of plague, routes of transmission, carriers. Pathogenesis, the decisive significance of the entry point of infection for clinical forms of the disease, microbe penetration, lymphogenous and hematogenous

	spread, damage to the cardiovascular system, lymphatic system, and respiratory organs. Clinical classification. Characteristics of clinical manifestations of various forms of infection. Complications. Outcomes. Diagnostic methods: bacterioscopic, bacteriological, serological, biological, rules for taking pathological material for laboratory tests and its transportation. Treatment: etiotropic therapy (selection of antibiotics, their doses and duration of treatment for various forms of the disease), pathogenetic and symptomatic treatment. Preventive and anti-epidemic measures (immediate mandatory hospitalization of the patient in a specialized hospital, isolation of contacts, personal prevention for medical workers, emergency prevention). Tularemia. Definition. Relevance. Etiology. Epidemiology, reservoirs of infection in nature, carriers of the pathogen, mechanisms of infection. Pathogenesis, significance of the entry point of infection for the clinical form of the disease, mechanisms of damage to the skin, lymphatic system, generalization of infection with damage to internal organs, formation of specific granulomas, sensitization. Clinical classification of tularemia. Clinical manifestations of various forms of the disease. Complications. Outcomes. Serological and allergological diagnostic methods. Differential diagnosis. Treatment. Preventive and anti-epidemic measures. Anthrax. Definition. Etiology. Epidemiology. Epizootological and epidemiological characteristics of the disease. Pathogenesis, the decisive significance of the entry point of infection for the development of various forms of the disease, the mechanism of damage to internal organs. Classification. Clinical characteristics of various forms of infection (cutaneous, septic, and pulmonary). Bacterioscopic, bacteriological, biological, and serological diagnosis. Differential diagnosis. Treatment. Preventive and anti-epidemic measures.
9 - 10	**Influenza and other acute respiratory viral infections.** Patients with acute respiratory infections and pneumonia are referred for treatment and clinical evaluation. Influenza. Definition. Etiology, current understanding of the pathogen, its antigenic properties and variability, influenza A (H1N1, H3N2) and influenza B viruses. Epidemiology, sources of infection, mechanism and routes of transmission, influenza epidemics and pandemics. Pathogenesis, virus reproduction in the cells of the cylindrical epithelium of the respiratory tract and vascular endothelium, the role of viremia and toxemia in the development of generalized microcirculation disorders. Classification. Clinical presentation, characteristics of intoxication-inflammatory, catarrhal, and hemorrhagic syndromes, criteria for severity. Complications: hemorrhagic pulmonary edema, acute respiratory failure, acute vascular insufficiency, pneumonia, sinusitis, etc. Specific diagnosis using serological and virological methods. Differential diagnosis. Treatment, indications for hospitalization, treatment program at home and in the hospital, regimen, diet, etiotropic drugs, pathogenetic and symptomatic agents. Specific and nonspecific prevention. ARVI (parainfluenza, adenovirus, rhinovirus, respiratory syncytial infections). Definition. Etiology, characteristics of various ARVI pathogens. Epidemiological features. Pathogenesis, level of damage to the respiratory tract mucosa. Classification of ARVI. Clinical manifestations, features of intoxication and catarrhal syndromes, damage to other organs and systems. Complications, mechanism of development, and clinical presentation of laryngeal stenosis in parainfluenza. Differential diagnosis. Diagnosis and treatment of ARVI. Preventive measures. Respiratory distress syndrome, laryngeal stenosis, pulmonary edema: pathogenesis, clinical presentation, emergency treatment.
10 - 11	**HIV infection.** Patients with HIV infection, herpes infection, infectious mononucleosis, or prolonged fever, lymphadenopathy, as well as educational case histories are offered for review and clinical analysis. HIV infection. Definition. Etiology, pathogen, its main properties. Epidemiology, the situation with HIV infection in the world, the Russian Federation, sources of infection, mechanism and routes of transmission, risk groups. Pathogenesis, stages of interaction between the virus and immune cells, mechanisms of formation of immunological disorders,

	development of secondary infectious processes, and the emergence of tumors. Classification, WHO criteria, stages of HIV infection (Pokrovsky V.I.). Clinical manifestations of the disease, characteristics of the main opportunistic infections and tumor processes (tuberculosis, cytomegalovirus infection, Kaposi's sarcoma, toxoplasmosis, Pneumocystis pneumonia, etc.), clinical and epidemiological prerequisites for suspected HIV infection. Diagnostics, examination tactics, immunogram, ELISA, immune blotting, PCR, virological method. Treatment, antiretroviral therapy, indications for prescription, drug groups, treatment regimens, immunomodulatory therapy, treatment of opportunistic infections. Prevention, emergency infection prevention measures. Legal and medical-ethical issues of HIV infection. Rights and obligations of HIV-infected individuals. Herpes infection. Definition. Etiology, general characteristics of herpesviruses. Pathogenesis, main links in pathogenesis, target cells, latency, persistence, reactivation of viruses. Classification. Clinical features of diseases caused by herpes simplex virus (changes in the skin and mucous membranes), varicella-zoster (rash in chickenpox and herpes zoster, neurological manifestations). Laboratory diagnosis (immunological methods, PCR diagnosis). Differential diagnosis. Treatment, choice of drug, dosage, and duration of treatment. Prevention.
11 - 12	**Meningococcal infection.** Patients with meningococcal infection, meningitis, or case studies are suggested for review and clinical analysis. Meningococcal infection. Relevance of the problem. Definition. Etiology, pathogen, its main properties. Epidemiology, sources of infection, mechanism and routes of transmission, frequency of epidemic outbreaks, seasonality. Pathogenesis, introduction of the pathogen, hematogenous and lymphogenous dissemination of infection, mechanism of development of ITHS, cerebral hypertension and hypotension, cerebral edema, DIC syndrome, and acute adrenal insufficiency (Waterhouse-Friderichsen syndrome) . Classification of meningococcal infection. Clinical presentation, characteristics of the main syndromes and symptoms according to disease form, clinical manifestations of ITH, DIC syndrome, acute adrenal insufficiency, cerebral edema. Diagnosis: cerebrospinal fluid examination, bacterioscopic, bacteriological, serological methods. Treatment of patients with meningococcal infection at the prehospital stage, complex etiotropic and pathogenetic therapy, antibiotic therapy tactics, methods and means of pathogenetic therapy. Emergency therapeutic measures for the development of ITH, DIC syndrome, acute adrenal insufficiency, cerebral edema. Discharge rules, dispensary observation. Prevention.
13 - 14	**Diphtheria. Infectious mononucleosis** Diphtheria. Infectious mononucleosis Patients with tonsillitis and infectious mononucleosis are proposed for treatment and clinical analysis. Diphtheria. Definition. Etiology, properties of the pathogen. Epidemiology. Pathogenesis, local and general resorptive action of exotoxin, development of diphtheritic and croupous inflammation, the role of exotoxin in the damage to the lymphatic, circulatory, and nervous systems, myocardium, and adrenal glands, features of the pathogenesis of toxic and hypertoxic diphtheria. Classification of diphtheria. Clinical characteristics of various forms of the disease. Complications of diphtheria, ITHS, early and late myocarditis and polyneuropathy, kidney damage. Prognosis. Bacteriological and serological methods of diagnosis. Differential diagnosis. Treatment: specific therapy with antitoxic serum, single and course doses, methods of serum administration; choice of antibiotics, pathogenetic therapy, indications for the appointment of GCS, intubation and tracheostomy, treatment of myocarditis, polyneuropathy. Rules for discharge, dispensary observation. Preventive measures. Infectious mononucleosis. Definition. Etiology. Epidemiology. Pathogenesis. Classification. Clinical picture with characteristics of the main syndromes and symptoms of the disease: intoxication, tonsillitis, polylymphadenopathy, hepatosplenomegaly, jaundice, exanthema, hematological changes. Diagnosis: detection of atypical mononuclear cells in peripheral blood, ELISA with Epstein-Barr virus and cytomegalovirus antigens. Differential

	diagnosis. Treatment: antiviral, pathogenetic, and symptomatic therapy. Indications for GCS and antibiotic therapy. Discharge rules, dispensary observation. Prevention. Listeriosis. Definition, etiology, epidemiology, pathogenesis, classification, clinical manifestations, diagnosis and differential diagnosis, treatment, prevention.
15 - 16	**Erysipelas. Tetanus. Rabies. Protection of medical records. Solving situational tasks.** For supervision and clinical analysis, patients with erysipelas, Lyme disease, or educational case histories and situational problems are offered. Erysipelas. Definition. Etiology, main properties of the pathogen, L-forms of streptococcus. Epidemiology, significance of individual genetically determined predisposition to erysipelas, contagiousness of patients with erysipelas. Pathogenesis, exogenous and endogenous nature of infection, formation of a focus of infection in the skin, mechanism of development of local manifestations: damage to the lymphatic and blood vessels and capillaries of the dermis, local immune complex process, GCHZT, pathogenesis of toxic syndrome. Classification. Clinical manifestations of erythematous, erythematous-bullous, erythematous-hemorrhagic, bullous-hemorrhagic forms, severity criteria, frequency of occurrence, chronic recurrent erysipelas, characteristics of the course. Complications. Consequences (persistent lymphostasis, elephantiasis). Diagnosis. Differential diagnosis. Treatment, etiotropic, pathogenetic, and symptomatic therapy. Tetanus. Definition. Etiology, the pathogen's ability to produce toxins and spores. Epidemiology, distribution of the tetanus pathogen in nature, mechanisms of infection, relationship between morbidity and trauma. Pathogenesis, entry point, formation of the focus of infection, toxemia, selective action of the toxin on various structures of the nervous system, mechanism of convulsive syndrome, disorders of external respiration, metabolic disorders. Classification. Clinical manifestations of the initial period and peak of the disease, criteria for severity. Diagnosis. Differential diagnosis. Treatment, features of specific and etiotropic therapy for tetanus, administration of tetanus serum, tetanus globulin, anatoxin, methods of intensive care for patients in intensive care units. Prevention: general, surgical, and specific. Rabies. Definition. Etiology, main properties of the rabies virus, stability in the external environment. Epidemiology, sources and reservoirs of the virus in nature, epizootics among wild and domestic animals, routes of human infection, significance of the entry point of infection. Pathogenesis, pathological anatomy, introduction and spread of the virus, damage to the central nervous system, histomorphological changes in the medulla oblongata, cerebellum, spinal cord, Babes-Negri bodies. Classification, stages of the disease. Clinical presentation, incubation period, early symptoms of rabies, peak of the disease, atypical forms. Prognosis. Diagnosis. Treatment and care of patients. Prevention: control of the source of infection, sanitary and veterinary measures, specific prevention, use of rabies gamma globulin, indications for vaccination and methods of its administration.

6. EDUCATIONAL TECHNOLOGIES

The teaching process utilizes methods based on modern achievements in science and information technologies in education. These methods are aimed at improving the quality of training by developing students' creative abilities and independence. To this end, both traditional teaching methods (lectures, clinical practical classes) and interactive forms of seminars and clinical case studies are used:

- training forms of practical classes (clinical situational tasks, case studies, role-playing in the form of clinical case studies or patient care);
- interactive clinical analysis with patient demonstrations;
- involvement of students in scientific preclinical and clinical research, preparation of presentation materials, reports, essays, or abstracts.

7. ASSESSMENT TOOLKIT

The assessment toolkit ensures verification of the intended learning outcomes achievement (competency-based rubrics) using current, midterm and interim assessment of the course.

The link between developed competencies and their assessment is presented in the following table:

Competency	**Achievement rubrics**	**Assessment activity (Syl 1)**	**Assessment activity (Syl 2)**
ОПК-2	З-ОПК-2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ОПК-2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ОПК-2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
ОПК-4	З-ОПК-4	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ОПК-4	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ОПК-4	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
ОПК-6	З-ОПК-6	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ОПК-6	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ОПК-6	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
ОПК-7	З-ОПК-7	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ОПК-7	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ОПК-7	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
ПК-3.2	З-ПК-3.2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ПК-3.2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ПК-3.2	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
ПК-3.3	З-ПК-3.3	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	У-ПК-3.3	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14
	В-ПК-3.3	PFE, T-8, T-16, T-6, T-14	Ex, T-8, T-15, T-6, T-14

Educational achievement rubrics scales

The scale of each assessment activity varies from 0 to the maximum established point, inclusive. The final assessment of the course is performed on a 100-point scale and represents the sum

of the points earned by the student in the section assessments, framework of current and interim assessment.

Sections and interim assessments are considered passed when the student achieves a minimum score equal to 60% of the maximum. The final grade is assigned only upon passing all sections and the interim assessment.

The final grade is assigned in accordance with the following scale:

<table>
<tr><th>Total score</th><th>Rating on a 4-point scale</th><th>Pass/fail examination</th><th>ECTS assessment</th></tr>
<tr><td>90-100</td><td>5 – «excellent»</td><td rowspan="7">«pass»</td><td>A</td></tr>
<tr><td>85-89</td><td rowspan="3">4 – «good»</td><td>B</td></tr>
<tr><td>75-84</td><td>C</td></tr>
<tr><td>70-74</td><td rowspan="2">D</td></tr>
<tr><td>65-69</td><td rowspan="2">3 – «satisfactory»</td></tr>
<tr><td>60-64</td><td>E</td></tr>
<tr><td>below 60</td><td>2 – «fail»</td><td>«fail»</td><td>F</td></tr>
</table>

An “excellent” grade indicates a deep and solid mastery of the program material by a student who presents their answers consistently, clearly, and logically, is able to closely link theory with practice, and uses materials from monographic literature in their answers.

A “good” grade corresponds to a student’s solid knowledge of the material, who presents their answers competently and to the point, without any significant inaccuracies.

A “satisfactory” grade corresponds to the basic level of mastery of the material by the student, in which the main material has been mastered, but its details have not been assimilated, the answers contain inaccuracies, insufficiently correct wording and logical inconsistencies.

A grade “pass” corresponds to at least a basic level of mastery of the program material, in which the student possesses the necessary knowledge, skills, and abilities, and is able to apply theoretical principles to solve typical practical problems.

A grade “fail” is given to a student who lacks a significant understanding of the curriculum material, makes significant errors in their answers, or fails all required assignments. These students are generally unable to continue their studies without additional classes.

8. ACADEMIC COURSE EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT

CORE READING:

1. ЭИ I-60 Infectious diseases: textbook : учебник, Yushchuk N.D., Vengerov Yu.Ya., Москва: ГЭОТАР-Медиа, 2020

FURTHER READING:

1. ЭИ M91 Infectious Diseases and Rural Livelihood in Developing Countries : , Mphande, Fingani Annie. , Singapore: Springer Singapore, 2016

2. ЭИ А 13 Инфекционная безопасность. Covid-19 : учебное пособие для вузов, Абдусалямов А. А., Москва: Юрайт, 2024

3. ЭИ И74 Инфекционные болезни. Национальное руководство : краткое издание, , Москва: ГЭОТАР-Медиа, 2023

4. ЭИ Б 43 Инфекционные болезни: гемоконтактные инфекции : учебное пособие для вузов, Романенко С. М. [и др.], Москва: Юрайт, 2024

SOFTWARE:

No special softwares is required

LMS AND ONLINE RESOURCES

https://online.mephi.ru/

http://library.mephi.ru/

9. LOGISTICAL SUPPORT

1. Персональный компьютер: Процессор CPU Intel Core i7-8700 (3.2GHz/12MB/6 cores) Материнская плата Gig (Клиническая база)

2. Мышь, клавиатура (Клиническая база)

3. Проектор SMART P109 (Клиническая база)

4. Кушетка медицинская (Клиническая база)

5. Монитор (Клиническая база)

6. Иное оснащение, предусмотренное порядками оказания медицинской помощи по соответствующему профилю (Клиническая база)

10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS

Recommendations for preparing for seminars.

The plan for practical classes, their topics, recommended reading, and the goals and objectives of the course are communicated by the instructor during the introductory classes or in the course syllabus. Practical classes help students gain a deeper understanding of the course material and acquire skills for creative work with scientific literature.

Before starting to study a topic, it is necessary to familiarize yourself with the main issues of the practical class plan and the list of recommended literature.

When starting to prepare for a practical class, it is necessary, first of all, to refer to the lecture notes, sections of textbooks and teaching aids to get a general idea of the place and significance of the topic in the course being studied. Then work with additional literature and take notes on the

recommended sources. In the process of studying the recommended material, it is necessary to understand the structure of the topic being studied, identify the main points, follow their logic, and thus delve into the essence of the problem being studied. It is necessary to take notes on the material being studied in the form of a summary, which, along with visual memory, also involves motor memory and allows you to accumulate an individual fund of auxiliary materials for quick repetition of what you have read and for mobilizing the accumulated knowledge.

The main forms of recording are: plan (simple and detailed), excerpts, and theses. During the preparation process, it is important to compare sources, think through the material being studied, and develop an algorithm of actions, carefully thinking through your oral presentation.

Clinical practical classes

The most important stage of practical classes is independent work by students to master practical skills: in simulated conditions, at the patient's bedside, in the functional diagnostics office, etc. Depending on the specific topic of the class, students independently (or under the supervision of a teacher) interview patients, conduct clinical examinations, observe instrumental diagnostics, study the results of additional tests, summarize the data, present it in the form of fragments of medical histories, and report the results to the teacher. Achievements are assessed individually for each student, the degree of development of practical skills and their theoretical foundations.

Clinical reviews of thematic patients are conducted for the entire group or through student participation in clinical reviews and periodic scientific and practical conferences at medical organizations where practical training takes place. During the reviews, the instructor evaluates each student's active participation and ability to think clinically.

Recommendations for preparing for the test.

Test – 10–15–20–25 points. Each question is worth 1 (2) points.

TOPICS: specified in each specific section

Answer requirements: a clear, detailed answer (2 points/task) or selection of the correct answer to the test question (1 point/task).

Recommendations for preparing for the test/exam

Answer requirements and assessment criteria:

A grade of “excellent” (45–50 points) on a test/exam is given for: a correct, complete, and logically structured answer; the ability to use specialized terminology; the ability to illustrate theoretical concepts with practical examples.

A “good” grade (35–44 points) on an exam is given for: a correct, complete, and logically structured answer with minor errors or inaccuracies; the ability to use special terms, but with conclusions or generalizations that are not entirely complete.

A “satisfactory” grade (30–34 points on the exam) is given for: a schematic, incomplete answer; inability to use special terms or ignorance of them; one gross error;

A grade of “unsatisfactory” (< 30 points on the exam) is given for: answers to all questions on the exam paper with gross errors; inability to use special terminology; inability to give examples of the practical application of scientific knowledge.

Admission to the exam in the discipline is granted with a score of more than 30 points.

During the semester, a student can earn from 30 to 50 points.

The minimum score for an exam answer is 30, the maximum is 50.

11. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

During practical classes, students' mastery of lecture material is assessed, patients are supervised, and practical skills are evaluated.

Visual aids, training devices, device simulators, or demonstrations of procedures in real-life conditions are used to demonstrate and practice practical skills. To assess their clinical thinking skills, students are given situational problems, clinical histories, test assignments, clinical case studies, and visits to medical conferences, consultations, and scientific symposiums.

Active and interactive forms of teaching are widely used in the educational process (work in small groups, stimulation of creative activity, use of computer training programs, conference-style classes).

The teacher monitors students' independent work, preparation of reports, research work, work with patients together with the teacher, interpretation of data from additional research methods, and completion of medical documentation.

Working with educational literature is considered a type of educational work and is carried out within the hours allocated for its study. Each student is provided with access to the electronic library collections of the institute and department.

The training of students contributes to the development of their skills in communicating with patients, taking into account ethics and deontology.

Independent work contributes to the development of skills in working with patients, working with literature, analytical thinking, filling out documentation, accuracy, and discipline.

The initial level of students' knowledge is determined by testing, and ongoing assessment of subject mastery is determined by oral questioning during classes, during clinical reviews, when solving typical situational problems, and in test answers.

At the end of the course, interim and final assessments are conducted using tests, practical skills tests, and case studies.

Grading and criteria for tests, open-ended answer assessments, homework, and the final test:

1. Tests are graded according to the scheme: 1 point – 1 correct answer. If a student did not attempt the work: (-1) point.

2. Open-ended answer assessments are graded according to the scheme: complete answer – 2 points, incomplete answer – 1 point, no answer – 0 points. If a student did not attempt the work: (-2) points.

3. Homework must be completed by all students to be admitted to the final assessment. For work submitted late, a deduction of (-1) point from the final grade is applied.

4. Criteria for evaluating a presentation report. Conversion from a 100-point scale to a 10-point (5-point) scale is applied.

5. Criteria for evaluating an essay. Maximum score is 10 points. Conversion to a 5-point scale is possible.

10 points are awarded if all requirements for writing the essay are met: the problem is identified and its relevance is justified; a brief analysis of the problem is provided and a personal position is logically presented; conclusions are formulated; the source material is fully analyzed; the required length is maintained; formatting requirements are met.

9 points are awarded if the following requirements for the essay are met: the problem is identified and its relevance is justified; a brief analysis of the problem is provided and a personal

position is logically presented; conclusions are formulated; the source material is fully analyzed. However, the required length is not maintained and/or formatting requirements are not met.

8 points – the main requirements for the essay are met, but minor shortcomings are present. Specifically, there are inaccuracies in the presentation of the material; a logical sequence in reasoning is absent; the required essay length is not maintained; there are omissions in formatting.

7 points – the main requirements for the essay are met, but the following shortcomings are present: there are inaccuracies in the presentation of the material; a logical sequence in reasoning is absent; conclusions are not formulated; the required essay length is not maintained; there are omissions in formatting.

6 points – there are significant deviations from the essay requirements; the topic is only partially covered; factual errors in the content are present; conclusions and a personal viewpoint on the problem are absent.

5 points – there are significant deviations from the essay requirements: the topic is only partially covered; factual errors in the presentation of materials and methods are present; conclusions and a personal viewpoint on the problem are absent; the required format is not maintained.

4 points – there are significant deviations from the essay requirements: the relevance of the topic is not revealed; factual errors in the presentation of materials and methods are present; conclusions and a personal viewpoint on the problem are absent; the required format is not maintained.

3 points – analysis of the topic's relevance, applied approaches, and methods is absent, while the formal length requirement for the essay is met.

2 points – the essay topic is not addressed, a substantial misunderstanding of the problem is evident. However, the formal length and formatting requirements are fulfilled.

1 point – the essay topic is not addressed, a substantial misunderstanding of the problem is evident.

0 points – the essay was not submitted by the student.

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