



Министерство науки и высшего образования РФ Ульяновский государственный университет	Форма	
Ф-Рабочая программа дисциплины		

**APPROVED**  
by the decision of the Academic Council of the USU  
Institute Medicine, Ecology and Physical Culture  
16 «05» 2024 Record No. 9/260  
Chairman V. V. Mashin  
«16» 05 2024



### EDUCATIONAL PLAN

Subject	Epidemiology
Faculty	Medical faculty of T.Z. Biktimirov
Department	Dermatovenerology and infectious diseases
Course	VI

Specialty 31.05.01 - General Medicine  
*direction code (specialty), full name*


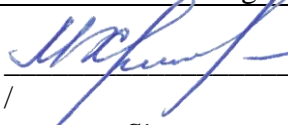
Form of education - full-time education


Date of introduction into the academic process at Ulyanovsk State University  
«01» 09 2024 г.

The program was updated at the meeting of the department: № \_\_\_\_ of \_\_\_\_\_

#### Inrormation about the authors

Initials	Abbreviation of the department	Degree, scientific rank
Имukhina L.V.	Dermatovenerology and infectious diseases	Associate Professor, Ph.D.

Agreed Head of the Department, deveioping discipline	Agreed Head of the graduating Department
 / A.S. Nesterov / <i>Signature name</i> «26» 04 2024 г.	 / M.A. Vize-Khripunova <i>Signature name</i> «6» 05 2024 г.

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## 1. GOALS AND OBJECTIVES OF MASTERING THE DISCIPLINE

The objectives of the discipline: the formation of students' general professional competencies and mastering the theoretical and methodological foundations of the prevention of the most common infectious and non-communicable diseases;

Tasks of mastering the discipline:

- mastering basic theoretical knowledge and practical skills to identify the causes of the occurrence and spread of the incidence of the most widespread infectious and non-communicable diseases among the population;
- teaching the student the basics of epidemiological research as universal methods that study any mass pathology in the human population;
- formation of the ability to use descriptive, analytical and experimental epidemiological studies to identify risk factors for infectious and non-communicable diseases with an assessment of the effectiveness of preventive and therapeutic measures;
- formation of the ability to organize preventive and anti-epidemic work and practical skills to justify decisions on preventive and anti-epidemic measures aimed at improving human health.

## 2. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE OPOP

Discipline B1.O.55 "Epidemiology" refers to the professional cycle of the basic part of mandatory disciplines B1.About the educational program on the specialty 31.05.01 "Medical business".


To study the discipline, knowledge, skills and abilities formed by previous disciplines are necessary: Pediatrics, psychiatry, medical psychology, polyclinic therapy, Hospital surgery, pediatric surgery, Clinical psychology, OCD, immunology, Professional elective. Healthcare, Physiology of visceral systems, Fundamentals of Rational Nutrition, Marketing in Healthcare, Project activities, Practice in obtaining primary professional skills and skills of an outpatient clinic doctor, an assistant to an outpatient clinic doctor.

The study of the discipline is necessary for the knowledge, skills and abilities formed by subsequent disciplines of the professional cycle: Oncology, radiation therapy, hospital therapy, Quality management of medical care, preparation for passing and passing the state exam.

## 3. THE LIST OF PLANNED RESULTS OF TRAINING IN THE DISCIPLINE, CORRELATED WITH THE PLANNED RESULTS OF MASTERING THE MAIN PROFESSIONAL EDUCATIONAL PROGRAM

The study of the discipline "Epidemiology" is aimed at the formation of the following general professional (OPC) competencies in students: OPC-11 and PC-6 according to the plan of mastering the educational program.

Code and name of the implemented competence	The list of planned learning outcomes in the discipline, correlated with indicators of achievement of competencies
OPK-11 OPK-11. Is able to prepare and apply scientific, scientific-production, design, organizational-management and regulatory documentation in the healthcare system	ID-1 OPK11 To know: the maintenance of standard accounting and reporting medical documentation in medical organizations; the basics of the technique of translating scientific text in the specialty, the basics of annotating and referencing scientific text; the main types of special dictionary and reference literature and rules for working with it; the concept of science; classification of sciences; scientific research and its stages; methodological foundations of scientific-scientific knowledge, modern classification of diseases. ID-2 OPK 11 Be able to: use databases for storing and using information in


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	healthcare; use computer programs to solve problems of mathematical statistics in professional activity; interpret and use data from basic instrumental methods of examination (ECG, ultrasound, X-ray, ECHO CS, FVD, FGDS, etc.), independently remove the ECG; properly issue the documentation. ID-3 OPK11 Possess: the basics of working on a personal computer, the ability to maintain medical records.		
PC-6 Ability to apply the basic principles of organization and management in the field of public health protection, in medical organizations and their structural divisions	PC-6 To know: the state policy in the field of public health protection; the basics of the organization of medical care to the population; the basics of management, planning, financing of medical organizations and their structural units. Be able to: apply the basic principles of organization and management in the field of public health protection, in medical organizations and their structural divisions.  Possess: methods of calculation and analysis of performance indicators of medical organizations.		

#### 4. GENERAL DISCIPLINE LABOR CAPACITY

4.1. Volume of discipline in credit units (total) 2 credits . \_\_\_\_\_

4.2. By type of educational work (in hours) 72


Type of study work	Number of hours (form of study - full-time )		
	Total according to the plan	Incl. by semester	
		9	10
Contact work of students with the teacher in accordance with the UP	54/54		54/54
Lectures	10/10	-	10/10
Practical and seminar classes	44/44	-	44/10
Laboratory work (laboratory workshop)	-	-	-
Independent work	18	-	18
The form of current control of knowledge and control of independent work	Interview, problem solving, tests	-	Interview, problem solving, tests

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Course work	-	-	-	
Types of intermediate certification (exam, test)	offset		offset	
<b>Total hours per discipline:</b>	<b>72</b>	-	<b>72</b>	


**4.3. The content of the discipline (module). Hours distribution by topics and types of educational work:**

**Form of study - full-time**

Title and sections and topics	Total	Types of training sessions					Form of current knowledge control
		Auditing classes			Classes in an interactive form	Independent personal work	
		Lectures	Practical classes, seminars	Laboratory work, workshops			
<b>Section 1. General epidemiologists</b>							
Topic 1. Epidemiology as a general medical science. The main directions of development of epidemiology. Epidemiological approach to the study of problems of pathology and health .	<b>8</b>	<b>1</b>	<b>5</b>		<b>6</b>	<b>2</b>	interview Te steer control Problem solving
Topic 2 . Epidemiological methods. epidemiological research. epidemiological diagnosis. Fundamentals of evidence-based medicine. Clinical Epidemiology	<b>8</b>	<b>1</b>	<b>5</b>		<b>6</b>	<b>2</b>	Problem solving
Topic 3. General epidemiology of infectious diseases. The doctrine of the epidemic process. The main manifestations of the epidemic process.	<b>8</b>	<b>1</b>	<b>5</b>		<b>6</b>	<b>2</b>	

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<b>Section 2. The content of anti-epidemic activities and the basics of its organization. Anti-epidemic forces and means.</b>							
Topic 4. Organization of anti-epidemic activities. Preventive and anti-epidemic measures. epidemiological surveillance.	8	1	5		6	2	Solution of situational problems
Topic 5. Disinfection, disinsection, deratization. Sterilization.	8	1	5		6	2	Oral interview, problem solving, test control
Topic 6. Immunoprophylaxis.	8	1	5		6	2	Tests
Topic 7. Intestinal infections. Respiratory tract infections. Blood infections. Infections of the outer integuments	8	1	5		6	2	
<b>Section 3. Private epidemiology of infectious and parasitic diseases.</b>							
Topic 8. Zoonoses, sapronoses, helminthiasis. Epidemiology and prevention of ISMP	8	1	5		6	2	Oral interview, test control
<b>Section 4. Protection of the population in the foci of particularly dangerous infections in case of deterioration of the radiation situation and natural disasters</b>							
Topic 9. Epidemiological surveillance of particularly dangerous (quarantine) infections. Organization and implementation of anti-epidemic measures in extreme conditions. Test	8	2	4		6	2	Oral interview, test control
<b>TOTAL</b>	72	10	44		54	18	

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## 5. CONTENT OF THE DISCIPLINE

### Section 1. General epidemiology

**Topic 1.** Epidemiology as a general medical science. The main directions of epidemiology development. Epidemiological approach to the study of the problems of pathology and health of children

A brief historical sketch of the development of epidemiology, the main stages. Contribution of domestic and foreign scientists to the development of the theory and practice of epidemiology. The method of epidemiology in the system of medical sciences, medical education and health care. Epidemiology is a fundamental medical science related to the field of preventive medicine. Goals and objectives of epidemiology. Modern structure of epidemiology. Epidemiological approach to the study of human diseases, comparison with other approaches to the study of diseases - clinical, pathomorphological, etc. The subject of epidemiology is the morbidity of the population and its adverse outcomes. Relevance in epidemiology

Causes and conditions that form morbidity. The mechanism of formation of the morbidity of the population. Manifestations of morbidity of the population (level, structure, distribution by territories, population groups and over time). The concept of "risk of illness".

**Topic 2.** Epidemiological methods. Epidemiological studies.

Epidemiological diagnostics. Fundamentals of evidence-based medicine.

Clinical epidemiology

Epidemiological research method. Definition of concepts: epidemiological analysis, epidemiological studies. Types of epidemiological studies. Observational and experimental, descriptive and analytical, simultaneous and longitudinal, retrospective and prospective, clinical and field, randomized and non-randomized, controlled and uncontrolled epidemiological studies. Other characteristics of epidemiological studies. Descriptive and evaluative (descriptive) epidemiological studies: purpose, types, content. Stages of organization of descriptive and evaluative research. Research program and plan, collection, processing and grouping of epidemiological information. Tables and graphic images. The main statistical methods and concepts used in descriptive epidemiological studies: general and selective aggregates, average values (arithmetic, geometric, harmonic), extensive (specific gravity, mortality) and intensive (morbidity, prevalence, mortality, disability) indicators, statistical comparison (parametric and nonparametric criteria), statistical distributions, dynamic series (long-term and intra-annual dynamics of morbidity), evaluation of the statistical relationship between the studied features (correlation, regression analysis). The use of descriptive epidemiological methods in clinical practice.


Observational analytical studies: purpose, types, content of the organization. Types of observational analytical epidemiological studies ("case-control", cohort). Advantages and disadvantages of different types of analytical studies. The use of analytical epidemiological methods in the clinic.

Experimental epidemiological studies. The purpose of epidemiological studies is to identify cause-effect relationships in the "environment-health" system, to assess the potential and actual effectiveness and safety of therapeutic agents and measures. Types of experimental studies: controlled, uncontrolled, "natural" and other types of experimental studies

Randomized controlled experimental clinical and field trials are the "gold standard" of modern medicine (clinical epidemiology, evidence-based medicine) for assessing the safety and effectiveness of diagnostic, therapeutic, preventive, anti-epidemic drugs and measures. Clinical trials. Principles of group formation (inclusion criteria, informed consent, randomization, blinding). Phases of clinical trials. Features of the RCT of medicines, vaccines and other immunobiological preparations.

Randomized field controlled trials, the purpose of the study. Evaluation of the potential effectiveness of diagnostic and screening tests. Definition of the concepts of diagnostic and screening test.



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The purpose of diagnostic (diagnosis and choice of therapy) and screening tests (earlier identification of patients and secondary prevention). The use of experimental studies to evaluate diagnostic and screening tests. Features of the organization of the study for the evaluation of diagnostic tests. The basic test scheme of the diagnostic test.

The "gold standard" is the most accurate diagnostic test. Testing scheme and evaluation of the effectiveness and safety of the screening program. Operational characteristics of diagnostic tests (sensitivity, specificity, validity). Legal and ethical aspects of experimental research in epidemiology. The reliability and evidence of scientific data. The pyramid of evidence. Epidemiologic diagnostics - definition, concepts, sections. The concept of "epidemiological diagnosis", its content. Retrospective and operative epidemiological analysis.

Definition of the concept of "evidence-based medicine". The history of the establishment, the goal, the tasks. Basic principles of evidence-based medicine. Sources of additional information. The general structure of a scientific message, an algorithm for evaluating a scientific publication. Information systems in medicine. Models of information systems. Medical servers. Information systems in epidemiology. Databases: definition, classification. Relational and post-relational (document-oriented) databases. Electronic sources of evidence-based medical information. The content and characteristics of databases containing information on evidence-based medicine.

Strategies for forming a search query in various search engines and databases, depending on the type of clinical question. Rubricators (MeSH). Strategies for the search for randomized controlled trials, systematic reviews, diagnostic tests, etiological factors, prognosis of disease development, treatment outcomes of clinical guidelines, preventive programs with proven effectiveness, developed by the centers of evidence-based medicine.

Systematic reviews. Requirements for the compilation of systematic reviews. The use of data from systematic reviews in practical work. Meta-analysis. Requirements for meta-analysis. The Cochrane collaboration. The Cochrane Library. Clinical epidemiology as a branch of epidemiology. Principles of optimization of the process of diagnosis, treatment and prevention in relation to a particular patient using data from epidemiological studies. The role of clinical epidemiology in the development of scientific foundations of medical practice. Development of epidemiologically sound clinical recommendations and standards for diagnosis, development of the disease, prognosis of outcomes, methods of treatment and prevention.


**Topic 3. General epidemiology of infectious diseases** The doctrine of the epidemic process. The main manifestations of the epidemic process

The content of epidemiology of infectious diseases as a section of modern epidemiology. The epidemic process as a subject of epidemiology of infectious diseases. Definition of the concept of "epidemic process", Contribution of L.V. Gromashevsky, E.N. Pavlovsky, I.I. Elkin, V.D. Belyakov, B.L. Cherkassky and other domestic and foreign scientists to the development of the doctrine of the epidemic process. The parasitic system as the basis of the epidemic process. The concept of the "epidemic triangle". The Law of Epidemiology on the 3 links of the epidemic process. The epidemic triad of factors: the source of the causative agent of infection, the mechanism of transmission, the susceptibility of the population.

Quantitative characteristics of the epidemic process: morbidity, prevalence, mortality, lethality, morbidity and others, levels of intensity of the epidemic process - sporadic and epidemic morbidity. Definitions and characteristics of epidemic morbidity - outbreaks, epidemics, pandemics.

Elements of the natural and social environment that change the qualitative and quantitative characteristics of the epidemic process. The doctrine of the natural foci of the roots. Theory of self-regulation of parasitic systems. The epidemic process as a reflection of the dynamic interaction of genotypically and phenotypically heterogeneous populations of the parasite and host in specific conditions of the social and natural environment. Socio-ecological concept of the epidemic process.

Reservoir and source of the causative agent of infection. Definitions of concepts. Reservoir and sources of pathogens of anthroponoses, zoonoses, sapronoses. Transmission mechanisms. The basic law of the transmission mechanism. Ways and factors of transmission of infectious agents.

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Susceptibility and immunity. Definitions of concepts. Immunological structure of the population. Heterogeneity of the child population according to the degree of susceptibility to infectious agents (genotypic and phenotypic). Methods of studying individual immunity and the immunological structure of the population. Nomenclature and modern epidemiological classifications of infectious and parasitic diseases. Features of presentation of infectious and parasitic diseases in ICD-10. Ecological and epidemiological classification of infectious diseases. Epidemic focus: definition, types, temporal and spatial boundaries. Epidemic foci in children's educational institutions.

## **Section 2. The content of anti-epidemic activity and the basics of its organization.**

### **Antiepidemic forces and means.**

**Topic 4.** Organization of anti-epidemic activities. Preventive and anti-epidemic measures. Epidemiological surveillance

Prevention of morbidity and its adverse outcomes is the main goal of epidemiology. Levels and content of prevention (primary, secondary, tertiary prevention), other levels and types of prevention. Types of prevention. Prevention as a process of managing (controlling) the morbidity of the population. The system of epidemiological surveillance of diseases and socio-hygienic monitoring as diagnostic polysystems in the system of management (control) of morbidity of the population. Preventive and antiepidemic means and measures. Grouping of preventive and anti-epidemic measures in the infectious morbidity management system, Measures regarding the sources of infectious agents. A group of measures aimed at breaking the transmission mechanism (on the way and factors of transmission). Activities aimed at a receptive team)the body). Legal and ethical aspects of prevention. Legislative state acts ensuring the right of citizens to health protection: The Constitution of the Russian Federation, the Fundamentals of the Legislation of the Russian Federation on the protection of citizens' health. Subordinate state acts that ensure the protection of citizens' health. Sanitary and epidemiological norms and rules, etc. Civil and criminal liability for actions (inaction) that caused a violation of the health of citizens.

### **Topic 5. Disinfection, disinsection, deratization. Sterilization**

Disinfection. Definition of the concept. The importance and place of disinfection in the system of preventive and anti-epidemic measures. Resistance of pathogens of infectious diseases on objects of the external environment. Types of disinfection: profilactic, focal (current, final). Disinfection methods: mechanical, physical, chemical, biological, combined. Organization of disinfection activities in children's (preschool, school, medical) institutions.


Sterilization. Definition of the concept. The importance of sterilization in the prevention of hospital infection. Regulatory documents regulating the organization and conduct of sterilization measures. Organization of pre-sterilization cleaning, sterilization in pediatric medical organizations. Methods (steam, air, chemical, using ionizing radiation, combined, etc.) and means of sterilization. Sterilization modes, Quality control of pre-sterilization treatment and sterilization: chemical, bacteriological, physical) Centralized sterilization department (CSO) of a medical organization - structure, content

### **Topic 6. Immunoprophylaxis**

Immunoprophylaxis of infectious diseases. Immunological bases of vaccination. Susceptibility to infectious diseases, factors affecting the intensity of the infectious process. Classification of types and forms of immunity. Assessment of the immunity status of the child population using skin immunological and allergic tests, serological research methods, goals and objectives of immunological (serological) monitoring, methodological approaches to the organization and conduct of research. Goals, content and place of immunoprophylaxis in the system of preventive and antiepidemic measures, its significance in different groups of infectious diseases. History of immunoprophylaxis. Works by E. Jenner, L. Paster, I.I. Mechnikov, N.F. Gamalei, A.A. Smorodintseva, M.P. Chumakov and other scientists.

Legal and regulatory foundations of immunoprophylaxis. National calendar of preventive vaccina-



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tions. Modern international, national and regional programs in the field of immunoprophylaxis. Classification of IIBP. Methods of obtaining, characteristics, distinctive features, advantages and disadvantages, immunological effectiveness of MIBP.

Organization of vaccination work. Planning of preventive vaccinations. Accounting of the child population and adolescents. Maintaining the vaccination file. Conditions of storage and transportation of MIBP. Supervision of the quality of transportation and storage of MIBP. "Cold chain" - definition of the concept, structure, influence of disorders in the cold chain on the effectiveness of immunization. Destruction of unused IIBS, syringes and needles. Requirements for the equipment of vaccination rooms. Immunoprophylaxis of certain infectious diseases in accordance with the National Calendar of preventive vaccinations. Terms and schemes of administration and dose. The peculiarities of immunization of special groups of the population.

Classification of contraindications to immunization. Possible reactions and complications. Monitoring and investigation of post-vaccination complications. Evaluation of the quality and effectiveness of immunoprophylaxis. The role of the doctor in the organization of vaccination work.

### **Section 3. Private epidemiology of infectious and parasitic diseases**

#### **Topic 7. Intestinal infections**

Intestinal anthroponoses. General characteristics of the group. Fecal-oral transmission mechanism, its stages. Transmission factors (primary, intermediate and final, primary and secondary). Transmission paths. The timing of the contagiousness of the sources of pathogens of infection. Characteristics and features of the manifestations of the epidemic process. Specific elements of the social and natural environment that affect the mechanism of development and manifestations of the epidemic process. Types of epidemic process in intestinal anthroponoses. The theory of etiological selectivity of the leading ways of transmission of shigellosis.

Epidemiological surveillance. Fundamentals of prevention and anti-epidemic measures in epidemic foci. Respiratory tract infections (aerosol anthroponoses). General characteristics of the group. Stages of the transmission mechanism. Classification of aerosol anthroponoses. Features of the interaction of the pathogen with the host organism. Features of the manifestation of the epidemic process. The role of social conditions. Epidemiological surveillance. Fundamentals of prevention and anti-epidemic measures in epidemic foci. Immunoprophylaxis as the main direction of the fight against aerosol anthroponoses. Blood infections. General epidemiological characteristics. Characteristics of the transmissible transmission mechanism, transmission paths and factors. Features of the manifestations of the epidemic process. Epidemiological surveillance. Prevention and anti-epidemic measures in epidemic foci. Presentation of the hemocontact (contact) mechanism of transmission and infections with this mechanism of transmission. Transmission paths (artificial and natural). Factors of transmission of infectious agents


Infections of the outer integuments. General epidemiological characteristics. Epidemiological surveillance and prevention.

#### **Topic 8. Zoonoses, sapronoses, helminthiasis**

Zoonoses. General characteristics of the group. Epidemiological classification based on the ecological proximity of pathogens. Definition of the concept of "natural charm" of infections. Classification of natural focal infections. Mechanisms, ways and factors of transmission of pathogens from animal to human. Concepts: reservoir, host, carrier, specific and non-specific contamination. Organization of epidemiological and epizootological surveillance. Preventive and anti-epidemic measures.

Sapronoses. General characteristics of the groups. Classification. The role of natural and social conditions in the formation of the incidence of sapronosis. Organization of epidemiological surveillance. Preventive and anti-epidemic measures.

Helminthiasis and protozooosis. General characteristics of the group. Classification. Characteristics of pathogens. The mechanism of transmission of invasion. Ways of infection. Features of the epidemic process. Participation of the polyclinic service in the implementation of epidemiological surveillance

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of helminthiasis and protozoa. Primary antiepidemic measures in foci. Prevention. Infections associated with the provision of medical care (ISMP). The basic concepts of hospital epidemiology, their definitions. Classification of ISMP. Mechanism, pathways, transmission factors. Features of the manifestation of the epidemic process in medical organizations of various profiles. Causes and conditions determining the manifestations of the epidemic process. Preventive and anti-epidemic measures.

Fundamentals of epidemiological surveillance of ISMP. A complex of preventive and anti-epidemic measures. The place of the medical service in the structure of epidemiological control (management) of the incidence of ISMP.

#### **Section 4. Protection of the population in the foci of especially dangerous infections in case of deterioration**

##### **of the radiation situation and natural disasters**

**Topic 9.** Epidemiological surveillance of particularly dangerous (quarantine) infections. . Organization and implementation of anti-epidemic measures in extreme conditions

of Plague, cholera, yellow fever, highly contagious viral hemorrhagic fevers. Epidemiology and characteristics of sources of infection, ways of human infection. A system of anti-epidemic measures aimed at protecting the territory of the country from the importation of infection. Anti-epidemic measures carried out in extreme situations when an infection is imported into the territory of the Russian Federation.

An integral part of the national system for ensuring the sanitary and epidemiological well-being of the population of the Russian Federation is the sanitary protection of the territory, aimed at preventing the importation into the territory of the country and the spread of infectious diseases that pose a danger to the population, as well as at preventing the importation into the territory of the country of goods, chemical, biological and radioactive substances, waste and other goods that pose a danger to humans.


Sanitary protection of the country's territory consists of a set of measures: organizational, sanitary-hygienic, anti-epidemic, therapeutic and preventive, economic, technical and other. One of the components of the complex is the organization of sanitary quarantine control at checkpoints across the state border of the Russian Federation, which is carried out in 277 of 448 points, according to International Health Regulations. Definition of the concept of "anti-epidemic system". Her structure. The place of pediatric service in the anti-epidemic system. Anti-epidemic work at the pediatric medical site. Organization and implementation of anti-epidemic measures in extreme situations. Classification of extreme situations. Immediate and remote sanitary-hygienic and epidemiological consequences of extreme situations. Medical and tactical characteristics of epicenter of infectious diseases in areas of extreme situations. Determination of the boundaries of foci. Stages of anti-epidemic activity in the organization of measures in the event of an extreme situation (preparatory, with a threat of development, in the midst of an extreme situation, during the liquidation of long-term epidemiological consequences).

Sanitary and epidemiological intelligence - definition of the concept, tasks, organization. Methods of collecting information.


## **6. PRACTICAL TOPICS**

<b>Section, topic</b>	<b>Questions to the topic</b>

<p><b>Section 1. Epidemic process and infectious epidemiology.</b> <b>Topic 1</b> Epidemiological research methods. epidemiological diagnostics. Fundamentals of evidence-based medicine. Clinical Epidemiology</p>	<p>The concept of "epidemiological methods" of research, their use for the study of diseases of non-infectious origin. The main methodological approaches when using epidemiological methods: epidemiological observation, descriptive-evaluative and analytical methods, experimental research methods. Modern ideas about causality, the definition of the concepts of "cause", "conditions", "risk factors", causation. Epidemiological diagnostics, goals and objectives. Epidemiological analysis as the main method of epidemiological diagnostics. Retrospective and operational analysis, goals and objectives. Epidemiological research is the basis of evidence-based medicine. Evidence Pyramid. Standards in the diagnosis, treatment, examination of the patient.</p>
<p><b>Topic 2. The doctrine of the epidemic process. EP manifestations.</b></p>	<p>Parasitic system as the basis of the epidemic process. The concept of the "epidemic triangle". The law of epidemiology on 3 links of the epidemic process. Epidemic triad of factors: the source of the infectious agent, the mechanism of transmission, the susceptibility of the population. Quantitative characteristics of the epidemic process: incidence, prevalence, mortality, lethality, susceptibility and others, levels of intensity of the epidemic process - sporadic and epidemic incidence. Definitions and characteristics of epidemic morbidity - outbreaks, epidemics, pandemics.</p>
<p>Section 2. The content of the anti-epidemic activity Lesson 3. Organization of anti-epidemic activity. Preventive and anti-epidemic measures. Epidemiological supervision  Disinfection, disinsection, deratization. Sterilization</p>	<p>Definition of the concept. Grouping of measures aimed at individual links of the epidemic process (the source of infection, the mechanism of transmission and the host organism). Definition of the concepts of "quality" and "efficiency" in relation to anti-epidemic measures. Medical and non-medical subdivisions of the antiepidemic system. The structure of the sanitary and epidemiological service of the Russian Federation. The role of medical and preventive institutions in the system of epidemiological surveillance and the functions performed by medical institutions. The place of disinfection in the system of anti-epidemic measures. Types of disinfection: preventive, focal (current and final). Methods of disinfection: mechanical, physical, chemical, biological. Sterilization, stages of sterilization. Pre-sterilization treatment, methods and means of sterilization, quality control of sterilization. The place of disinsection in the system of anti-epidemic measures for various vector-borne infections. Types and methods of disinsection, fixed assets. Deratization, a place in the system of anti-epidemic measures in zoological diseases, the source of which are rodents</p>

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Lesson 4. Immunoprophylaxis	The place of immunoprophylaxis in the system of antiepidemic measures. A group of infectious diseases controlled by means of immunoprophylaxis. The quality and effectiveness of planned and emergency prevention. Methods for assessing the quality and effectiveness of vaccinations in controlled and uncontrolled epidemiological experience. Immunoprophylaxis is planned and according to indications. Contraindications to vaccinations, post-vaccination complications. Characteristics of individual immunobiological preparations
Section 3. Private epidemiology Lesson 5. Intestinal infections. Epidemiology and prevention of infectious diseases with aspiration transmission mechanism. Epidemiological surveillance of infections with contact and transmissible transmission mechanism. Infections of the outer integument	The most common diseases (shigellosis, salmonellosis, rotavirus infection, viral hepatitis A and E and other infections relevant to specific territories. General characteristics of the group. Features of the mechanism implementation in individual infections. Manifestations of the epidemic process. Epidemiological features of these infections in hospital settings. The main directions of epidemiological surveillance. Anti-epidemic measures. The importance of measures aimed at breaking the transmission mechanism. The most common diseases (ARI flu, chickenpox, measles, whooping cough, mumps, rubella, streptococcal infection, tuberculosis and other infections relevant to specific territories). General characteristics of the group. Manifestations of the epidemic process. Anti-epidemic measures. The importance of immunoprophylaxis. Epidemiology of HIV infection, viral hepatitis B, C, B and other infectious diseases with a contact mechanism of transmission. The main manifestations of the epidemic process. Characteristics of the sources of infection, transmission routes. Risk groups. The value of the parenteral transmission path. The role of the social factor in the dissemination of these nosoforms. Epidemiological surveillance at the present stage. Epidemiological surveillance of tick-borne infections.
Lesson 6. Zoonoses, sapronoses. Parasitic diseases. Epidemiology and prevention of ISMP	Zoonoses. General characteristics of the group. Epidemiological classification based on the ecological vulnerability of pathogens. Definition of the concept of "natural foci" of infections. Classification of natural focal infections. Mechanisms, ways and factors of transfer of pathogens from animal to human. Organization of epidemiological and epizootological surveillance. Sapronoses. General characteristics of the groups. Classification. The role of natural and social conditions in the formation of the incidence of sapronosis. Organization of epidemiological surveillance. Helminthiasis - epidemiology and prevention. Infections associated with the provision of medical care (ISMP). The basic concepts of hospital epidemiology, their definitions. Classification of ISMP. Mechanism, ways, transfer factors. Features of the manifestation of the epidemic process in medical organizations of obstetric and pediatric profile. Causes and conditions determining the manifestations of the epidemic process. Preventive

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	and anti-epidemic measures. Fundamentals of epidemiological surveillance of ISMP. A complex of preventive and anti-epidemic measures. The place of the medical service in the structure of epidemiological control (management) of the incidence of ISMP.
Section 4. Protection of the population in the foci of especially dangerous infections in case of deterioration of the radiation situation and natural disasters Lesson 7. Epidemiological surveillance for especially dangerous infections. Organization and implementation of anti-epidemic measures in extreme conditions	Plague, cholera, yellow fever, highly contagious viral hemorrhagic fevers Ebola, Marburg, Lassa, malaria - quarantine especially dangerous infections. Criteria that combine these nosoforms into one group. Sanitary protection of the territory of the Russian Federation from the import and spread of quarantine infections. Primary antiepidemic measures when identifying a patient (suspicious) according to nosoforms. Activities carried out under quarantine and in case of an emergency epidemiological situation. Definition of the concept of "anti-epidemic system". Its structure. The place of medical service in the anti-epidemic system. Anti-epidemic work at the pediatric medical site. Organization and implementation of anti-epidemic measures in extreme situations. Classification of extreme situations

## 7. LABORATORY WORK

Are not provided by the curriculum.

## 8. SUBJECT OF ABSTRACTS

Parenteral viral hepatitis B,C,D

1. The relevance of the problem (epidemiological and socio-economic significance).
2. General characteristics of parenteral viral hepatitis, epidemiological features.
3. Characteristics of infection sources and transmission routes in viral hepatitis
4. The content of preventive and anti-epidemic measures.
5. Means of specific prevention of viral hepatitis B and evaluation of the effectiveness of vaccination.

Tuberculosis

1. Relevance, medical and socio-economic significance of tuberculosis.
2. Prevalence of infection, characteristics of infection sources and transmission routes, modern manifestations of the epidemic process.
3. The main provisions, sections and features of epidemiological surveillance of tuberculosis. means and methods of tuberculosis prevention.
5. Characteristics and effectiveness of vaccination in tuberculosis.


Helminthiasis

- 1 Relevance, medical and socio-economic significance of helminthiasis.
2. Prevalence of infection, characteristics of infection sources and transmission routes, modern manifestations of the epidemic process in helminthiasis
3. The main provisions, sections and features of epidemiological surveillance of gel-mintoses
4. Modern means and methods of helminthiasis prevention.
5. Characteristics of the contact group of helminthiasis.

Infections associated with the provision of medical care (ISMP)

1. General characteristics of the epidemic process of ISMP.



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2. The importance of ISMP (epidemiological, economic, social);
3. Etiology of ISMP;
4. The concept of "hospital strain" of the pathogen and its characteristics;
5. Clinical and epidemiological manifestations of ISMP.
6. Epidemiological surveillance at ISMP
7. Preventive and anti-epidemic measures in the fight against ISMP


#### Streptococcosis

1. Relevance, medical and socio-economic significance of streptococcosis
2. Epidemiological features of the manifestation of the epidemic process.
3. The main sources and transmission routes in streptococcosis.
4. Stages of epidemiological surveillance of streptococcosis.

#### **9.LIST OF QUESTIONS FOR OFFSET**

1. The main directions of epidemiology development.
2. Epidemiological approach to the study of pathology and health problems.
3. Epidemiological methods.
4. Epidemiological studies.
5. Epidemiological diagnostics.
6. Fundamentals of evidence-based medicine. Clinical epidemiology.
7. Randomized controlled experimental clinical and field trials are the "gold standard" of modern medicine.
8. The epidemic process as a subject of epidemiology of infectious diseases. Definition of the concept of "epidemic process".
9. Epidemic triad of factors: the source of the causative agent of infection, the mechanism of transmission, the susceptibility of the population
10. Quantitative characteristics of the epidemic process: morbidity, prevalence, mortality, lethality, morbidity and others, levels of intensity of the epidemic process - sporadic and epidemic morbidity
11. Reservoir and source of the causative agent of infection. Definitions of concepts. Reservoir and sources of pathogens of anthroponoses, zoonoses, sapronoses.
12. Transmission mechanisms. The basic law of the transmission mechanism. Ways and factors of transmission of infectious agents.
13. Epidemiological classification of infectious diseases.
14. Epidemic focus: definition, types, temporal and spatial boundaries
15. Grouping of preventive and anti-epidemic measures in the infectious disease management system.
- 16 Measures regarding the sources of pathogens of infection.
17. A group of measures aimed at breaking the transmission mechanism (on the way and the facts of transmission).
18. Activities aimed at a receptive collective (organism)
19. Disinfection. Definition of the concept. The importance and place of disinfection in the system of preventive and anti-epidemic measures.
20. Types of disinfection: preventive, focal (current, final).
21. Disinfection methods: mechanical, physical, chemical, biological, combined. Organization of disinfection measures in various (pre-school, school, medical) institutions.
22. Sterilization. Definition of the concept. The importance of sterilization in the prevention of bacterial infection.
23. Methods (steam, air, chemical, using ionizing radiation, combined, etc.) and means of sterilization.
24. Immunoprophylaxis of infectious diseases. Immunological bases of vaccination. Susceptibility to infectious diseases.
25. Organization of vaccination work. Planning of preventive vaccinations. Accounting of the child



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population and adolescents

26. "Cold chain" - definition of the concept, structure, influence of disorders in the cold chain on the effectiveness of immunization.

27. Destruction of unused MIBP, syringes and needles.

28. Requirements for the equipment of vaccination rooms.

29. Immunoprophylaxis of certain infectious diseases in accordance with the National calendar of preventive vaccinations.

30. Classification of contraindications to immunization. Possible reactions and complications. Monitoring and investigation of post-vaccination complications.

31. Evaluation of the quality and effectiveness of immunoprophylaxis.

Organization and implementation of anti-epidemic measures in extreme situations.

32. Classification of extreme situations.

33. Intestinal anthroponoses. General characteristics of the group. Fecal-oral transmission mechanism, its stages.

34. Epidemiological surveillance. Fundamentals of prevention and anti-epidemic measures in epidemic foci of typhoid fever.

35. EN in viral hepatitis A.

36. EN in rotavirus infections.

37. Respiratory tract infections (aerosol anthroponoses). General characteristics of the group. Stages of the transmission mechanism.

38. EN for measles, diphtheria, meningococcal infections.

39. Blood infections. Epidemiological characteristics.

40. Characteristics of the transmission mechanism of transmission, ways and factors of transmission. Features of the manifestations of the epidemic process.

41. Epidemiological surveillance. Prevention and anti-epidemic measures in epidemic foci of tick-borne encephalitis, tick-borne borreliosis.

42. Understanding of the hemocontact (contact) transmission mechanism and infections with this transmission mechanism. EN in viral hepatitis B,C

43. Infections of the outer integuments. General epidemiological characteristics. Epidemiological surveillance and prevention.

44. Zoonoses. General characteristics of the group. Epidemiological classification based on the ecological proximity of pathogens. Definition of the concept of "natural charm" of infections.

45. Sapronoses. General characteristics of the groups. Classification. The role of natural and social conditions in the formation of the incidence of sapronosis.

46. Helminthiasis and protozoonosis. General characteristics of the group. Classification. Characteristics of pathogens. The mechanism of transmission of invasion. Ways of infection. Features of the epidemic process.


47. Infections associated with the provision of medical care (ISMP). The basic concepts of hospital epidemiology, their definitions. Classification of ISMP. Mechanism, pu-ti, transmission factors.

48. Features of the manifestation of the epidemic process in medical organizations of various profiles. Causes and conditions determining the manifestations of the epidemic process. Preventive and anti-epidemic measures.

49. Fundamentals of epidemiological surveillance of ISMP.

50. Plague, cholera, yellow fever, highly contagious viral hemorrhagic fever. Epidemiology and characteristics of sources of infection, ways of human infection.


51. A system of anti-epidemic measures aimed at protecting the territory of the country from the importation of infection. Anti-epidemic measures carried out during the import of especially dangerous infections into the territory of the Russian Federation.

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## 10. INDEPENDENT WORK OF STUDENTS

The form of study is full - time .

Name of sections and topics	Type of independent work (study of educational material, problem solving, abstract, report, control work, preparation for the test, exam, etc.)	Volume in hours	Form control (verification of problem solving, abstract, etc.)
Topic 1. Epidemiology as a general medical science. The main directions of epidemiology development. Epidemiological approach to the study of pathology and health problems.	Game design.  Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test control
Topic 2. Epidemiological methods. Epidemiological studies. Epidemiological diagnostics. Fundamentals of evidence-based medicine. Clinical epidemiology.	Preparation of presentations. Game design, discussions.  Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test Control
Topic 3. General epidemiology of infectious diseases. The doctrine of the epidemic process. The main manifestations of the epidemic process.	Discussions. Preparation of presentations.  Preparation of presentations. Game design.	2	Interview, problem solving, test Control
Topic 4. Organization of anti-epidemic activity-news. Preventive and anti-epidemic measures. Epidemiological surveillance.	Game design.  Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test Control
Topic 5. Disinfection, disinsection, deratization. Sterilization.	Game design. Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test Control
Topic 6. Immunoprophylaxis.	Game design. Preparation of presentations. Game design, discussions	2	Interview, problem solving, test Control
Topic 7. Intestinal infections. Respiratory tract infections. Blood infections. Infections of the outer integument	Game design.  Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test Control

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Topic 8. Zoonoses, sapronoses, helminthiasis. Epidemiology and prevention of ISMP	Game design. Preparation of presentations. Game design, discussions	2	Interview, problem solving, test Control	
Topic 9. Epidemiological surveillance of particularly dangerous (quarantine) infections. Organization and implementation of anti-epidemic measures in extreme conditions. Test	Game design.  Preparation of presentations. Game design, discussions.	2	Interview, problem solving, test Control	

## 11. EDUCATIONAL AND METHODOLOGICAL SUPPORT OF THE DISCIPLINE

### Literature.

a) main:

Zueva L.I. Epidemiology. Textbook - St. Petersburg, 2008. 752

Briko N.I., Epidemiology : textbook / N.I. Briko , V.I. Pokrovsky - M. : GEOTAR-Media , 2017. - 368 p. - ISBN 978-5-9704-3665-3 - Text: electronic // EBS "Student Advisor": [website]. - URL : <http://www.studentlibrary.ru/book/ISBN9785970436653.html>

Yushchuk N.D., Epidemiology of infectious diseases : textbook / Yushchuk N.D. and others - 3rd ed., revised . and additional - M. : GEOTAR-Media , 2016. - 496 p. - ISBN 978-5-9704-3776-6 - Text: electronic // EBS "Student Advisor": [website]. - URL : <http://www.studentlibrary.ru/book/ISBN9785970437766.html>

additional literature:

Brazhnikov A.Yu., General epidemiology with the basics of evidence-based medicine: a guide to practical exercises / Brazhnikov A.Yu., Briko N.I., Kiryanova E.V., Mindlina A.Ya., Pokrovsky V.I., Polibin R.V., Torchinsky N.V., I.P. Paltyshev . - M. : GEOTAR-Media , 2017. - 496 p. - ISBN 978-5-9704-4255-5 - Text: electronic // EBS "Student Advisor": [website]. - URL : <http://www.studentlibrary.ru/book/ISBN9785970442555.html>

Chebyshev N.V., Infectious and parasitic diseases of developing countries / Ed. N.V. Chebysheva, S.G. Paka - M. : GEOTAR-Media , 2008. - ISBN 978-5-9704-0635-9 - Text : electronic // EBS "Student Advisor": [website]. - URL : <http://www.studentlibrary.ru/book/ISBN9785970406359.html>

Pokrovsky V.I., Guide to practical exercises in the epidemiology of infectious diseases : a textbook / Pokrovsky V.I., Briko N.I. - M. : GEOTAR-Media , 2005. - 800 p. - ISBN 5-9704-0038-6 - Text: electronic // EBS "Student Advisor": [website]. - URL : <http://www.studentlibrary.ru/book/ISBN5970400386.html>

educational literature

Mertsalova , SL Epidemiological diagnostics : Textbook . special / S. L. Mertsalova . - Ulyanovsk : UIGU , 2001, 59p.


Mertsalova , SL Quarantine infections : textbook .- method . allowance / S. L. Mertsalova , A. A. Nafeev . - Ulyanovsk : UIGU , 2004, 14 p.

Mertsalova , S. L. Epidemiological surveillance of nosocomial infections: study guide . allowance for students, interns, wedge. residents, doctors / Mertsalova S L., M. M. Kamaletdinov . - Ulyanovsk : UIGU , 2008.29s. <http://10.2.225.162/MegaPro/Download/MObject/69/merzalova1.pdf>

Mertsalova , SL Specific prevention of infectious diseases : textbook .- method . allowance / Mertsalova S. L., Nafeev A.A. ; UIGU , IMEiFK , Med. fak . - Ulyanovsk : UIGU , 2009.68s.

5. Nafeev A.A. Cholera. Teaching aid / Nafeev A.A. UIGU , 2009, 61s.

6. Nafeev A.A. legionellosis ( legionnaires' disease): teaching aid / Nafeev

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A.A., UIGU , 2009, 48s. <http://10.2.225.162>

6. Mertsalova, S. L. Epidemiology and prevention of helminth infections: textbook .- method . allowance / rtsalova . - Ulyanovsk : UIGU , 2011. 36s. – Access Mode / MegaPro / Download / MObject /69/merzalova1.pdf

8. Nafeev A.A. Cholera. Teaching aid / Nafeev A.A. UIGU , 2009.61 p .

9Mertsalova, S.L. Disinfection and disinfestation: textbook .- method . allowance / Mertsalova SL. AA. Nafeev ; UIGU , IMEiFK . - Ulyanovsk : UIGU , 2011, 60s. – Access mode <http://10.2.225.162/MegaPro/Download/MObject/70/merzalova.pdf>

10. Nafeev A.A. Mertsalova S.L., Kiseleva L.M. Classification of infectious and parasitic diseases. Teaching aid . UIGU , 2013.39s.

11 Nafeev A.A. Highly contagious viral hemorrhagic fevers ( Ebola . Lassa , Marburg) Teaching aid / Nafeev A.A. UIGU 2015, 59p.

Agreed: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Согласовано:  
**ДИРЕКТОР НБ** / **БУРХАНОВА М.М.** /  / \_\_\_\_\_  
Agreed: Должность сотрудника научной библиотеки / ФИО / подпись / дата

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**ДИРЕКТОР НБ** / **БУРХАНОВА М.М.** /  / \_\_\_\_\_  
Должность сотрудника научной библиотеки / ФИО / подпись / дата

Position of the scientific library employee Full name signature date

Position of the scientific library employee Full name signature date

## b) Software

### in) Professional databases, information and reference systems

#### 1. Electronic library systems:

##### 1. Electronic library systems:

103. 1.1. Digital educational resource IPRsmart : electronic library system : website / AI Pi Ar Media Company LLC. - Saratov, [2024]. – URL: <http://www.iprbookshop.ru> - Access mode: for registration. users. - Text : electronic.

104. 1.2. YURAYT educational platform : educational resource, electronic library : website / LLC Electronic publishing house "YURAYT". – Moscow, [2024]. - URL: <https://urait.ru> - Access mode: for registration. users. - Text : electronic.

105. 1.3. Database "Electronic library of a technical university (EBS "Student Consultant") : electronic library system : website / LLC "Politehresurs". – Moscow, [2024]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Access mode: for registration. the user. – Text : electronic.

106. 1.4. Doctor's consultant. Electronic medical library : database : website / LLC "Higher School of Organization and Management of Healthcare-Comprehensive medical consulting". – Moscow, [2024]. – URL: <https://www.rosmedlib.ru> - Access mode: for registration. users. – Text : electronic.

107. 1.5. Large medical library : electronic library system : website / LLC "Bukap". – Tomsk, [2024]. – URL: <https://www.books-up.ru/ru/library/> . – Access mode: for the dawn. users. – Text : electronic.


108. 1.6. EBS Lan : electronic library system : website / EBS Lan LLC. – St. Petersburg, [2024]. – URL: <https://e.lanbook.com> - Access mode: for registration. the user. – Text : electronic.

109. 1.7. EBS Znaniy.com : electronic library system : website / Znaniy LLC. - Moscow, [2024]. - URL: <http://znaniy.com> . – Access mode : for registration. users. - Text : electronic.

110. 2. ConsultantPlus [Electronic resource]: legal reference system. / Consultant Plus LLC - Electron. dan. - Moscow : ConsultantPlus, [2024].

111. 3. eLIBRARY.RU : scientific electronic library : website / Scientific Electronic Library LLC. – Moscow, [2024]. – URL: <http://elibrary.ru> - Access mode : for authorization. users. – Text : electronic

112. 4. Federal State Information System "National Electronic Library" : electronic library : website /

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FSBI RGB. – Moscow, [2024]. – URL: <https://нэб.рф> – Access mode: for users of the scientific library. – Text : electronic.

113. 5. Russian education : federal portal / founder of FGAU "FITZTO". – URL: <http://www.edu.ru> - Text : electronic.

114. 6. UISU electronic library system : the module "Electronic library" of ABIS Mega-PRO / LLC "Date Express". – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Access mode : for users of the scientific library. – Text : electronic.

115.

Lead engineer



Shchurenko Yu.V.

Согласовано:

Специалист ведущий / Мажукина С.Н. / 16.04.2024 г.

Должность сотрудника научной библиотеки

ФИО

подпись

дата

## 12. LOGISTICS AND TECHNICAL SUPPORT OF THE DISCIPLINE

For conducting classes, a lecture audience and audiences for seminars (2) are used, equipped with the necessary furniture and technical teaching aids: teaching boards , study tables, slides, multimedia presentation of lectures, bacterial preparations (vaccines, diagnosticums , sera, immunoglobulins).

In the learning process, situational tasks , tests , role-playing games are used to identify the level of knowledge of students.

## 13. SPECIAL CONDITIONS FOR STUDENTS WITH DISABILITIES

For persons with impaired vision, hearing and musculoskeletal system, printed slides in enlarged type, audio lectures and seminars, individual work with the student: consultations and assignments are possible.

Developer –

Associate Professor of the Department of Dermatovenerology and infectious diseases, Ph.D. Ilmukhina L.V.

