

**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
BELARUSIAN STATE MEDICAL UNIVERSITY**

**Контрольный
экземпляр**

APPROVED

by First Vice-Rector, Professor

S.V. Gubkin



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EPIDEMIOLOGY

**Curriculum of higher educational institution
in the educational discipline for the specialty:**

1-79 01 01 «General medicine»;

Minsk BSMU 2016

The curriculum is based on the Standard educational program «Epidemiology and military epidemiology», approved 29.07.2016, registration # TR-534/men.

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RECOMMENDED FOR APPROVAL:

by the Department of Epidemiology of the Educational Institution “Belarusian State Medical University”

(protocol № 20 of May, 13th, 2016);

by the Methodological Commission of health-care disciplines of the Educational Institution “Belarusian State Medical University”

(protocol № 10 of May, 19th, 2016)

EXPLANATORY NOTE

«Epidemiology» is the academic discipline, that contains systematic scientific knowledge about the epidemic process, methods of its studying as well as knowledge about antiepidemic measures, organization of their implementation in order to prevent infectious diseases, to reduce infectious diseases morbidity and to eliminate certain diseases and about the epidemic process in the military units and the organization of anti-epidemic security forces in wartime and peacetime.

The curriculum in the subject «Epidemiology» includes the newest scientific data on theory of the epidemic process and practice of the disease control support for population. Peculiarities of the curriculum for 2016-2017 academic year consist in formulation of the objectives of learning and teaching the discipline, that are aimed at developing students' academic, social, personal and professional competence.

The aim of teaching and learning the discipline «Epidemiology» consists in providing the students with scientific knowledge about the laws and peculiarities of the epidemic process of topical infectious diseases, as well as mastering skills and abilities of preventive and disease control work, ensuring highly skilled performance of functional duties by medical specialists.

The tasks of the discipline are to develop the students' academic competence, the foundation of which is the ability to self-search information resources, the knowledge and understanding of:

- the structure and content of epidemiology as a scientific discipline;
- the causes and conditions, mechanisms of developing and manifestation of the epidemic process of certain nosological forms of infections and invasions;
- the laws of occurrence and spread of infectious diseases among population;
- the theoretical and practical problems of organization and carrying out immunization against communicable diseases;
- the principles of antiepidemic work in medical institutions.

The tasks of teaching the discipline consist in forming social, personal and professional competence, based on knowledge and application of:

- principles of disease control of population while respecting the rules of medical ethics and deontology;
- methods of prevention of topical infections.

The specificity of the epidemiological training of physicians in specialty 1-79 01 01 «General medicine» determines the need to focus students on studying:

- infectious diseases, widespread among adult population (HIV-infection and AIDS, herpes zoster, viral hepatitis B, D, C);
- immunization against rabies, influenza, human papillomavirus infection, emergency prevention of tetanus;
- infections associated with health care, and basics of infection control in hospital departments for adults.

The specificity of the epidemiological training of physicians in specialty 1-79 01 02 «Pediatrics» determines the need to focus students on studying:

- features of epidemic process of infectious diseases with a predominant spread among children (rotavirus infection, meningococcal disease, varicella);

- immunoprophylaxis of viral hepatitis b, tuberculosis, polio, measles, rubella, mumps, whooping cough, diphtheria, tetanus;
- infections associated with health care, and basics of infection control in hospital departments for children.

Teaching and successful study of the discipline «Epidemiology» is carried out on the basis the knowledge and skills acquired by the students in the following disciplines:

Medical Biology and General Genetics. Population structure of humanity; Fundamentals of Ecology and Parasitology.

Infectious Diseases. Clinical manifestations, pathogenesis, diagnosis and treatment of certain human infectious and parasitic diseases.

Children Infectious Diseases. Clinical manifestations, pathogenesis, diagnosis and treatment of certain infectious and parasitic diseases in children.

Phthisiopulmonology. Peculiarities of immunity and allergy in case of tuberculosis; immunoprophylaxis of tuberculosis.

Microbiology, virology and immunology. Basics of the theory of infection; etiology of bacterial and viral infections; the most important properties of infectious agents (heterogeneity of populations, resistance in the external environment, sensitivity to disinfectants, antibiotics, temperature factor); microbiological fundamentals of antiseptics, disinfection and sterilization; immunodiagnosis and immunoprophylaxis of infectious diseases.

Requirements for students' professional training at the end of the study of the subject

The student should **know**:

- sections of epidemiology, its place in the structure of medical science and practical public health;
- modern doctrine of the epidemic process; the main groups of anti-epidemic measures; basic preventive and anti-epidemic measures for selected infectious diseases;
- general characteristics of major groups of disinfectants, methods and types of disinfection and sterilization;
- basis of immunoprophylaxis of infectious diseases;
- factors, development mechanisms and manifestations of the epidemic process, basic preventive and anti-epidemic measures at individual infectious diseases;
- the basics of the epidemiology of nosocomial infections;
- basic concepts of clinical epidemiology as the theoretical foundations of evidence-based medicine;
- group of infectious agents – possible agents of bioterrorism;
- the mechanism of development and manifestations of the epidemic process in the military units in peace and war;
- basis for the organization and content of sanitary-antiepidemic measures in the military unit and military stages of medical evacuation;

- key performance characteristics of organic means of disinfection, field washing-disinfection equipment;
- basis for the organization and carrying out sanitary-epidemiological measures;
- the characteristics of biological weapons and measures for the biological protection of troops and objects in the rear;
- principles of introducing a strict anti-epidemic regime and the peculiarities of the work of the military stage of the medical evacuation;

The student should **be able to**:

- explain manifestations of epidemic process; to organize anti-epidemic measures in accordance with the epidemic situation;
- make an individual vaccination calendar, taking into account age and health status of the person;
- organize anti-epidemic measures in accordance with the epidemic situation;
- assess the validity of methods of diagnosis, treatment, prevention of diseases;
- determine the list of activities for epidemic control and biological protection in accordance with the epidemiological situation; to organize and conduct the activities of medical service for the identification and isolation of infected patients;
- to use methods and means of prevention of nosocomial infections;

to master:

- the most important epidemiological concepts;
- methods and means of prophylaxis of intestinal, aerosol infections and infections with a predominantly parenteral mechanism of infection;
- the basic methods and means of immunoprophylaxis of infectious diseases;
- skill of calculation of sanitary losses in the hearth of biological contamination;
- skill of assessment of sanitary and epidemiological situation in the military units and in the area.

Structure of the curriculum in the discipline «Epidemiology»:

1. General epidemiology.
2. Immunoprophylaxis of infectious diseases.
3. Special epidemiology
4. Nosocomial infections.
5. Clinical epidemiology.

Total number of hours for the study of the discipline is 80 academic hours. Classroom hours according to the types of studies: lectures - 8 hours, practical classes - 34 hours, student independent work (self-study) - 38 hours.

Current assessment is carried out according to the syllabus of the specialty in the form of a credit (7 semester).

Form of higher education – full-time.

THEMATIC PLAN

Name of section (topic)	Number of hours of classroom work	
	lectures	practical classes
1. General epidemiology	2	5
1.1. Epidemiology as a science and discipline, its place in the structure of medical sciences.	1	-
1.2. The modern doctrine of epidemic process	1	-
1.3. Basic epidemiological notions	-	1
1.4. Antiepidemic measures and means	-	2
1.5. Epidemic control measures in health care organizations	-	2
2. Immunoprophylaxis of infectious diseases	2	15
2.1. Basics of immunoprophylaxis of infectious diseases	2	-
2.2. Immunoprophylaxis of infectious diseases: instructions and regulations, organizational structure, basic functions of outpatient clinics, registration and reporting documents, planning, quality and efficiency assessment.	-	5
2.3. Immunoprophylaxis of hepatitis B, tuberculosis, whooping cough, diphtheria, tetanus, polio, measles, mumps, rubella	-	5
2.4. Immunoprophylaxis of rabies, influenza, Hib-infection, viral hepatitis A, papillomavirus infection	-	5
3. Special epidemiology	-	14
3.1. Intestinal infections: epidemic process, the basics of antiepidemic and preventive measures	-	4
3.2. Airborne infections: epidemic process, the basics of antiepidemic and preventive measures.	-	5
3.3. Herpesvirus infections (chickenpox and varicella zoster infection): epidemic process, the basics of antiepidemic and preventive measures.	-	2
3.4. Infections with a predominantly parenteral mechanism of infection: epidemic process, the basics of antiepidemic and preventive measures.	-	3
4. Nosocomial infections	2	-
5. Clinical Epidemiology	2	-
Total hours	8	34

CONTENT OF THE EDUCATIONAL MATERIAL

1. GENERAL EPIDEMIOLOGY

1.1. Epidemiology as a science and discipline, its place in the structure of medical sciences. The modern doctrine of epidemic process. Infectious disease as an object of epidemiology. Epidemic process is a subject of epidemiology. Definition of notion «epidemiology». Structure of epidemiology as a science about epidemic process. General epidemiology: subject and method; epidemic process theory; epidemiological diagnostics; means and measures for diseases control; organization of antiepidemic support. Special epidemiology. Epidemiology in the structure of medical science.

1.2. The modern theory of epidemic process. Definition of notion «epidemic process». Factors of epidemic process: biological, natural, social. Mechanism of developing of epidemic process. Theory of self-regulation of parasitic systems: heterogeneity of interacting population of pathogens and humans – basis of epidemic process development; relational variability of interacting populations of pathogens and people, regulatory role of negative feedbacks; phase character of epidemic process development (reservation phase, phase of epidemic transformation, phase of epidemic spreading, phase of reservation transformation); processes of self-regulation and role of natural and social factors. Quality and quantity manifestations of epidemic process: sporadic morbidity, epidemic, pandemic, epidemical outbreak, endemic morbidity, exotic morbidity, intensity of morbidity, morbidity dynamics (long-term, annual dynamics), morbidity structure, spatial characteristics of morbidity.

1.3. Basic epidemiological notions. Source of infection: patient, carrier of infection (acute, chronic, transient). Epidemic importance of different categories of infection sources. Definition of notion «mechanism of transmission». Factors and routes of transmission. Types of transmission mechanisms: airborne fecal-oral, contact, transmissible. Vertical (transplacental) mechanism of transmission. Specificity of transmission mechanisms. Pathogen transmission from animals to human as a mechanism of infection. Susceptibility and resistance and their importance in epidemic process development. Epidemic focus: definition of notion, characteristic (size, time of existence).

1.4. Antiepidemic measures and means. Definition of notion «antiepidemic measures». The fundamental group of antiepidemic measures: activities aimed at the source of infection, (clinical and diagnostic, isolating, treatment, regime-restrictive measures); activities aimed at mechanism of transmission (sanitation, disinfection, disinsection); activities aimed at human susceptibility (immunoprophylaxis, immunotherapy, emergency prevention). Additional variants of grouping of antiepidemic measures. Criteria for selection of antiepidemic measures. Definition of notion «antiepidemic means». Main groups of antiepidemic means (antibiotics, vaccines, immune serums, immunoglobulins, bacteriophages, disinfectants, raticides, insecticides).

1.5. Antiepidemic measures in health care organizations

Function of outpatient-and-polyclinic institutions in antiepidemic support of population: revealing cases of communicable disease, accounting and registration,

information for sanitary-epidemiological service, making decision of isolation at home or hospitalization to infectious diseases hospital, treatment, permission to resume work, outpatient observation, organization of current disinfection, carrying out immunization, readiness for antiepidemic measures in case of patients with especially dangerous infections, participation in prevention and control of helminthiasis, sanitary education.

Function of hospitals in antiepidemic support of population: isolation and treatment of contagious patients, prevention of nosocomial infection.

Disinfection and sterilization in disease control system. Definition of notion «disinfection». Types of disinfection: preventive, focal (current and terminal). Methods of disinfection. Physical method: mechanical, thermal and ionizing ways of influence on decontaminating objects. Chemical method. Requirements to disinfectants. Main groups of disinfectants: chlorine, aldehyde, oxidizing agents, alcohol-based agents, surface-active agents, the preparations based on guanidine derivatives, composites. Biological methods of disinfection: microbes-antagonists, bacteriophages.

Definition of notion «sterilization». Indications for sterilization of medical devices. Presterilizing cleansing. Methods of sterilization: hot air sterilization, steam, chemical. Organization of sterilization. Central sterilization department. Quality control of presterilization cleansing. General characteristic of methods and tools for disinfection and deratization.

2. IMMUNOPROPHYLAXIS OF INFECTIOUS DISEASES

2.1. Basics of immunoprophylaxis of infectious diseases

The role and place of immunization in contagious diseases prevention. Stages of immunization formation. Main groups of immunological preparations. Definition of notions «immunity», «human immune response». Indications and contraindications for vaccination. Postvaccinal reactions and complication and their prevention. Expanded World Health Organization Programme on Immunization. Legal base for immunoprophylaxis. Prospects for development of contagious diseases immunoprophylaxis.

2.2. Organizational principles of immunoprophylaxis of infectious diseases

Technical normative legal acts on issues of immunization. Immunization schedule. Criteria of quality and effectiveness of immunoprophylaxis. General requirements to routine immunization services; functioning of vaccination room. Storage and transport of vaccination preparations. Preventive vaccination on epidemic indications. Planning of preventive vaccination. Requirements for preventive vaccination. The concept of adverse reactions to immunizations: types, detection, registration, investigation. Assess the quality and effectiveness of immunization.

2.3. Immunoprophylaxis of infectious diseases included in the national immunization schedule

Immunoprophylaxis of viral hepatitis b, tuberculosis, poliomyelitis, diphtheria, pertussis, tetanus, measles, mumps, rubella, Haemophilus influenzae type b, pneumococcal disease: immunobiological medicines, immunization schedule and vaccination schemes, characteristics of acquired immunity, vaccine efficacy, adverse

reactions after preventive vaccinations, determining contraindications to vaccination, vaccination on epidemic indications. Rules of drawing up of the immunization schedule.

2.4. Immunoprophylaxis of infectious diseases under the epidemic indications

Epidemic indications for prophylactic vaccination against viral hepatitis A, varicella, influenza, rabies: immunobiological medicines, schemes of vaccination, characteristics of acquired immunity, vaccine efficacy, adverse reactions after preventive vaccinations, determining contraindications to vaccination. Prevention of tetanus by epidemic indications: feature of immunobiological drugs, the indications, the selection circuit of the prevention of tetanus, the tactics of prophylaxis of tetanus, depending on the vaccination history and nature of the wounds.

Preventive vaccination against infections, which were not included in the national immunization schedule: human papillomavirus infection, rotavirus infection.

3. SPECIAL EPIDEMIOLOGY

3.1. Intestinal infections: epidemic process, basics of antiepidemic and preventive measures

Dysentery. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance.

Salmonellosis. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism of infection and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Epidemic process of salmonellosis in condition of their intrahospital dissemination. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of infection; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance.

Rotavirus infection. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance.

Viral hepatitis A. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection;

mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process. Antiepidemic measures. Basics of preventive maintenance.

3.2. Airborne infections: epidemic process, basics of antiepidemic and preventive measures

Meningococcal infection. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance. Role of vaccination in prevention of meningococcal disease incidence.

Scarlet fever. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance.

Influenza. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive maintenance. Role of vaccination in prevention of influenza incidence.

3.3. Herpesvirus infections: epidemic process, basics of antiepidemic and prevention measures

Herpesvirus infections. Classification, nosological forms; the mechanism of development of epidemic process (source of the pathogen; mechanisms of transmission, factors of transmission; individual and collective susceptibility); the manifestations of the epidemiological process; prevention.

Chickenpox and varicella zoster infection. Etiology and epidemiological characteristics of causative agents of chickenpox. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process: morbidity; levels long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups (organized collectives), territory. Antiepidemic measures: меры, activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Basics of preventive

maintenance. Role of vaccination in prevention of chickenpox incidence. Varicella zoster infection as a result of reactivation herpesvirus type III infection.

3.4. Infections with a predominantly parenteral mechanism of infection: epidemic process, the basics of antiepidemic and preventive measures.

HIV-infection (acquired immune deficiency syndrome). Etiology and epidemiological characteristics of human immune deficiency viruses (HIV) - causative agents of acquired immune deficiency syndrome (AIDS) Mechanism of epidemic process development: source of infection; mechanism and main factors of HIV transmission; susceptibility. Manifestations of epidemic process: rates of morbidity levels; long-term dynamics; annual dynamics; distribution of incidence by age, professional and household groups, territory. Antiepidemic measures: activities aimed at source of infection; activities aimed at mechanism of transmission; measures aimed at persons contacting with a source of infection. Epidemiological (patrol) surveillance of HIV/AIDS. System of preventive measures of HIV / AIDS: revealing of HIV-infected, sanitary education of population, measures in relation to HIV-infected persons, disinfection and sterilization of medical devices, control of donor blood, medical staff training, disposable medical instruments, development of HIV/AIDS immunoprophylaxis means.

Viral hepatitis B, C, D et al. Etiology and epidemiological characteristics of causative agents. Mechanism of epidemic process development: source of infection; mechanism and main factors of transmission; susceptibility. Manifestations of epidemic process. Antiepidemic measures. Basics of preventive maintenance.

4. NOSOCOMIAL INFECTIONS

Definition of notions "infection related to health care". Epidemiological characteristics of the populations of pathogens of nosocomial infections, characteristics of hospital strains. Endogenous and exogenous infection. Classification according to localization of pathological process, the mechanism of development of epidemic process, manifestations of the epidemic process, risk factors. Epidemiological surveillance and infection control of infections associated with health care.

5. CLINICAL EPIDEMIOLOGY


Definition of notion «clinical epidemiology». Purpose of clinical epidemiology – clinical problem solving (diagnosis, treatment, rehabilitation) using epidemiological approach. Frequency of events. Revealing causes of disease. Risk. Methods of population-investigations: randomized controlled studies, cohort studies, case-control studies. Substantiation of prevention programs of noninfectious diseases.

**EDUCATIONAL AND METHODOLOGI MAP OF THE DISCIPLINE
"EPIDEMIOLOGY"**

Number of section, topic, class	Name of section, topic, list of studied questions	Number of classwork hours		Independ ent work	Form of knowledge assessment
		lectures	Laboratory classes		
1	2	3	4	5	
1.	General epidemiology	2	5	5	
1.1.	Epidemiology as a science and discipline, its place in the structure of medical sciences.	1	-	-	
1.2.	The modern doctrine of epidemic process	1	-	-	
1.3.	Basic epidemiological notions	-	1	1	Interview
1.4.	Antiepidemic measures and means	-	2	2	Interview
1.5.	Epidemic control measures in health care organizations	-	2	2	Interview, quizzes
2	Immunoprophylaxis of infectious diseases	2	15	12	
2.1.	Basics of immunoprophylaxis of infectious diseases	2	-	-	
2.2.	Organizational principles of immunoprophylaxis of infectious diseases	-	5	4	Interview, tests
2.3.	Immunoprophylaxis of infectious diseases included in the national immunization schedule	-	5	4	Interview, tests
2.4.	Immunoprophylaxis of infectious diseases under the epidemic indications	-	5	4	Interview, quizzes, tests
3	Special epidemiology	-	14	12	
3.1.	Intestinal infections: epidemic process, the basics of antiepidemic and preventive measures	-	4	3	Interview
3.2.	Airborne infections: epidemic process, the basics of antiepidemic and preventive measures	-	5	3	Interview
3.3.	Herpesvirus infections (chickenpox and varicella zoster infection): epidemic process, the basics of antiepidemic and preventive measures	-	2	3	Interview
3.4.	Infections with a predominantly parenteral mechanism of infection: epidemic process, the basics of antiepidemic and preventive measures.	-	3	3	Interview, quizzes

Number of section, topic, class	Name of section, topic, list of studied questions	Number of classwork hours		Independ ent work	Form of knowledge assessment
		lectures	Laboratory classes		
4.	Nosocomial infections	2	-	4	
5.	Clinical Epidemiology	2	-	5	Final tests, credits

Head of Department of
Epidemiology
professor
May, 13th, 2016.



G.N. Chistenko

INFORMATION AND METHODOLOGICAL PART

LITERATURE

Basic:

1. Olsen J, Christensen K, Murray J, Ekobom A. An Introduction to Epidemiology for Health Professionals. New York: Springer Science+Business Media; 2010.
2. Miquel Porta, editor "A dictionary of epidemiology", 6th edn, New York: Oxford University Press; 2014.
3. Rothman K, Sander Greenland, Lash T, editors. "Modern Epidemiology", 3rd Edition, Lippincott Williams & Wilkins; 2008.
4. Ray M. Merrill. Introduction to Epidemiology. Jones & Bartlett Learning; 2010. p.24.

Additional:

5. Morabia, Alfredo, editor. A History of Epidemiologic Methods and Concepts. Basel, Birkhauser Verlag. Part I. 2004.
6. Statistical methods in epidemiology: Karl Pearson, Ronald Ross, Major Greenwood and Austin Bradford Hill, 1900 – 1945. Trust Centre for the History of Medicine at UCL, London.
7. Rothman, K. Epidemiology: An Introduction. Oxford: Oxford University Press. 2002.
8. World Health Organization, Immunization, Vaccines and Biological Geneva, 2012 [Электронный ресурс] / Access mode: http://www.who.int/immunization/monitoring_surveillance/en/. – Date access of: 25.05.2015.
9. Christopher J.L. Murray, Alan D. Lopez, Colin D. Mathers, The Global Epidemiology of Infectious Diseases, World Health Organization Geneva; 2004.
10. William A. Rutala, David J. Weber, "Guideline for Disinfection and Sterilization in Healthcare Facilities", 2008.

FORMS OF KNOWLEDGE CONTROL

For the diagnosis of competencies are the following forms:

1. Oral form:

- interview;
- quizzes;
- oral tests.

2. Writing form:

- tests;
- quizzes;
- control work;
- abstracts;
- written tests.

3. Oral-written form:

- tests;
- credits.

THE LIST OF LECTURES

№ in order	The topic of the lecture	Lecturer
1.	<p>Epidemiology as a science and discipline, its place in the structure of medical sciences. The modern doctrine of epidemic process.</p> <ul style="list-style-type: none"> – subject and methods in epidemiology; – structure of epidemiology; – aims and objectives of epidemiology; – causes and conditions of existence of epidemic process; – definition of notion «epidemic process»; – factors of epidemic process; – mechanism of transmission. 	
2.	<p>Basics of immunoprophylaxis of infectious diseases:</p> <ul style="list-style-type: none"> – historical stages of development immunoprophylaxis; – immunological basics of vaccine prevention; – means of vaccination (vaccines: live, dead, chemical, artificial, toxoids); – substantiation of Immunization Schedule; – epidemiological consequences of large-scale vaccine prevention; – modern approaches to the list of contraindications to vaccination. 	
3.	<p>Nosocomial infections: epidemiological characteristics, basics of infection control:</p> <ul style="list-style-type: none"> – actuality of the problem; – definition of term «nosocomial infections»; – epidemiological characteristic of pathogens population; – mechanism of epidemic process development (source of infection, ways of pathogen transmission, susceptibility of human populations); – manifestation of epidemic process; – Basics of infection control and prevention. 	
4.	<p>Basics of Clinical Epidemiology:</p> <ul style="list-style-type: none"> – definition of term «clinical epidemiology»; – aim of clinical epidemiology; – clinical epidemiology and evidence-based medicine; – methods of clinical epidemiology (randomized controlled studies, cohort studies, case-control studies). 	

THE LIST OF PRACTICAL (LABORATORY) CLASSES

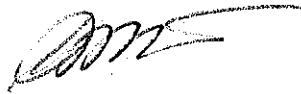
№ in order	The topic of the practical classes	Hours
1.	<p>Basic epidemiological notions (epidemic process; source of infection; way of transmission; susceptibility; epidemic focus). Antiepidemic measures and means. Epidemic control measures in health care organizations.</p>	5
2.	<p>Organizational principles of immunoprophylaxis of infectious diseases: technical normative legal acts on issues of immunization. Immunization schedule. General requirements to routine immunization services; functioning of vaccination room. Storage and transport of vaccination preparations. Immunoprophylaxis of hepatitis B, tuberculosis, whooping cough, diphtheria, tetanus.</p>	5
3.	<p>Immunoprophylaxis of infectious diseases included in the national immunization schedule (immunoprophylaxis of poliomyelitis, measles, mumps, rubella, Haemophilus influenzae type b, pneumococcal disease). Rules of drawing up of the immunization schedule.</p>	5
4.	<p>Immunoprophylaxis of infectious diseases under the epidemic indications (vaccination against viral hepatitis A, varicella, influenza, rabies; prevention of tetanus by epidemic indications. Preventive vaccination against infections, which were not included in the national immunization schedule: human papillomavirus infection, rotavirus infection. Test on drawing up individual Immunization Schedule.</p>	5
5.	<p>Intestinal infections (salmonellosis, rotavirus infection, shigellosis, hepatitis A): epidemic process, the basics of antiepidemic and preventive measures.</p>	4
6.	<p>Airborne infection (meningococcal infection, scarlet fever, influenza): epidemic process, the basics of antiepidemic and preventive measures.</p>	5
7.	<p>Herpesvirus infections (chickenpox and varicella zoster infection): epidemic process, the basics of antiepidemic and preventive measures. Infections with a predominantly parenteral mechanism of infection (HIV - acquired immune deficiency syndrome, hepatitis virus B, D, C): epidemic process, the basics of antiepidemic and preventive measures. Final Test</p>	5

**AGREEMENT PROTOCOL OF CURRICULUM IN EPIDEMIOLOGY WITH
CURRICULA IN OTHER DISCIPLINES FOR SPECIALITY (1-79 01 01
GENERAL MEDICINE)**

Name of related disciplines	The department, carrying out the teaching of related disciplines	Content of proposed changes in curriculum	Decision made by the department-developer (date, protocol number)
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Medical Biology and General Genetics	Biology	Population structure of humanity; Fundamentals of Ecology and Parasitology.	Coordinated, protocol № 20 dated 13.05. 2016.
Infectious Diseases	Infectious Diseases	Clinical manifestations, pathogenesis, diagnosis and treatment of certain human infectious and parasitic diseases	Coordinated, protocol № 20 dated 13.05. 2016.
Pediatric Infectious Diseases	Pediatric Infectious Diseases	Clinical manifestations, pathogenesis, diagnosis and treatment of certain infectious and parasitic diseases in children.	Coordinated, protocol № 20 dated 13.05. 2016.
Phthisiopneumology	Phthisiopneumology	Peculiarities of immunity and allergy in case of tuberculosis; immunoprophylaxis of tuberculosis.	Coordinated, protocol № 20 dated 13.05. 2016.
Microbiology, Virology and Immunology	Microbiology, Virology and Immunology	Basics of the theory of infection; etiology of bacterial and viral infections; the most important properties of infectious agents (heterogeneity of populations, resistance in the external environment, sensitivity to disinfectants, antibiotics, temperature factor); microbiological fundamentals of antiseptics, disinfection and sterilization; immunodiagnosis and immunoprophylaxis of infectious diseases..	Coordinated, protocol № 20 dated 13.05. 2016.
General Hygiene and Military Hygiene	General Hygiene	Environment as set of natural and social elements, their impact on public health; personal hygiene problems.	Coordinated, protocol № 20 dated 13.05. 2016.
Pediatrics	1 st and 2 nd Pediatrics Diseases	Immunoprophylaxis of infectious diseases Epidemic control measures in health care organizations.	Coordinated, protocol № 20 dated 13.05. 2016.

Polyclinical Therapy	Polyclinical Therapy	Immunoprophylaxis of infectious diseases Epidemic control measures in health care organizations.	Coordinated, protocol № 20 dated 13.05. 2016.
Surgical Diseases	1 st and 2 nd Surgical Diseases	Emergency prevention of tetanus in case of injury	Coordinated, protocol № 20 dated 13.05. 2016.
Public Health and Health Care	Public Health and Health Care	Organizational bases of national healthcare system, the concept of its development; organization of medical and preventive care; hygiene education and training; promotion of a healthy lifestyle; prevention, its types, levels and advanced features of its organization.	Coordinated, protocol № 20 dated 13.05. 2016.
Military Field Surgery	Military Field Surgery	Emergency prevention of tetanus in case of injury	Coordinated, protocol № 20 dated 13.05. 2016.


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Curriculum content, composition and the accompanying documents comply with
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