



MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION  
Federal State Autonomous Educational Institution of Higher Education

**Far Eastern Federal University**

(FEFU)

INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)

VALUATION FUND

*in the discipline (module) "Current issues of epidemiology"*

*Area of study 32.04.01 Public Health*

*Master's program "Leadership and governance in public health" (program in  
English for foreign citizens)*

Vladivostok 2023

Professional competencies of graduates and indicators of their achievement:

Task type	Code and name of professional competence (result of mastering)	Code and name of the competency indicator
	PC-1 Ability to calculate, assess and analyze indicators characterizing the activities of a medical organization and indicators characterizing the state of health of the population	PC-1.1 Knows the principles of information collection and processing PC-1.2 Able to create a data matrix, encode material PC-1.3 Proficient in statistical methods of data processing, including the use of information and analytical systems and the information and telecommunication network "Internet"
	PC-4 Ability to analyze and evaluate the performance of a medical organization, manage the resources of a medical organization, develop and implement a quality management system in a medical organization, prepare a justification for the volume of medical care in accordance with the resources of the medical organization and the needs of the population	PC-4.1 Knows the methodology for a comprehensive assessment of the results of a medical organization's activities PC-4.2 Is able to develop and select the optimal areas of activity of a medical organization PP-4.3 Possesses skills of a systematic approach in the development of development plans

Code and Competency Statement	Stages of competence formation
PC-1.1 Knows the principles of information collection and processing	Knows the principles of collecting, processing, analyzing, and providing information Able to collect, process, analyze and provide information in his/her professional activities Possesses the skill of collecting, processing, analyzing and providing information in their professional activities
PC-1.2 Able to create a data matrix, encode material	Knows how to encode information Able to create a data matrix, encode the material Proficient in coding material
PC-1.3 Proficient in statistical methods of data processing, including the use of information and analytical systems and the information	Knows the basic methods of data processing, including the use of information and analytical systems and the information and telecommunication network "Internet" Able to process data and present it

and telecommunication network "Internet"	Proficient in statistical methods of data processing, including the use of information and analytical systems and the information and telecommunication network "Internet"
PC-4.1 Knows the methodology for a comprehensive assessment of the results of a medical organization's activities	Knows the methodology for a comprehensive assessment of the results of the activities of a medical organization Able to conduct a comprehensive assessment of the results of the activities of a medical organization Possesses the skill of conducting a comprehensive assessment of the results of the activities of a medical organization
PC-4.2 Is able to develop and select the optimal areas of activity of a medical organization	Knows the optimal areas of activity of a medical organization Able to develop and select the optimal areas of activity of a medical organization Possesses the skill of developing the optimal direction of the medical organization's activities
PP-4.3 Possesses skills of a systematic approach in the development of development plans	Knows a systematic approach to the development of plans for the development of a medical organization Knows how to develop Possesses the skills of a systematic approach to the development of development plans

## MONITORING THE ACHIEVEMENT OF THE COURSE OBJECTIVES

Item No.	Supervised modules/sections/topics of the discipline	Codes and Stages of Competency Formation		Valuation Tools - Name	
				Current control	Intermediate Attestation
1	Section 1 General Epidemiology	PP-1.1; PC-1.2; PC-1.3; PP-4.1; PP-4.2; PC-4.3	<b>Knows:</b> <ul style="list-style-type: none"> <li>• subject areas of epidemiology;</li> <li>• the basics of organizing and conducting epidemiological studies (descriptive and evaluative, analytical, experimental), their purpose and features of organization, sources of errors in epidemiological studies and ways to eliminate them. Legal and Ethical Aspects of Epidemiological Research;</li> </ul> <b>Can:</b> <ul style="list-style-type: none"> <li>• organize epidemiological studies;</li> <li>• conduct a retrospective assessment of the intensity, dynamics, structure, territorial distribution of morbidity (mortality,</li> </ul>	UO-1 interview, Abstract PR-4, tests PR-1	Exam Questions 1-20

			<p>disability) in order to identify priority areas of preventive and anti-epidemic activities of medicine, to form hypotheses about risk factors;</p> <p><b>Owms:</b></p> <ul style="list-style-type: none"> <li>• descriptive, evaluative and analytical methods of epidemiological diagnosis;</li> <li>• the ability to identify, based on the results of operational analysis, the prerequisites and harbingers of complications of the epidemic situation</li> </ul>		
2	Section 2 Particular Epidemiology	PP-1.1; PC-1.2; PC-1.3; PP-4.1; PP-4.2; PC-4.3	<p><b>Knows:</b></p> <ul style="list-style-type: none"> <li>• features of the epidemiology of the most important communicable, parasitic and non-communicable diseases and measures to combat them;</li> <li>• theoretical, methodological and organizational foundations of epidemiological surveillance of individual groups and nosological forms of infectious, parasitic and non-communicable diseases;</li> </ul> <p><b>Can:</b></p> <ul style="list-style-type: none"> <li>• collect, statistically and logically process information in order to assess the state of health and morbidity of the population and the factors that determine them;</li> <li>• conduct inspection of epidemic foci and epidemically significant objects;</li> <li>• carry out epidemiological surveillance and control of individual groups and nosological forms of infectious, parasitic and</li> </ul>	UO-1 interview, Abstract PR-4, tests PR-1	Exam Questions 21-40

			<p>non-communicable diseases;</p> <ul style="list-style-type: none"> <li>organize preventive and anti-epidemic measures and assess their quality and effectiveness;</li> <li>carry out sanitary and epidemiological inspection of facilities for compliance with the requirements of sanitary legislation;</li> </ul> <p><b>Owens:</b></p> <ul style="list-style-type: none"> <li>the ability to formulate and evaluate hypotheses about the causal relationship between morbidity and risk factors;</li> <li>the ability to organize preventive and anti-epidemic measures based on the results of epidemiological diagnostics</li> </ul>		
3	Section 3 Epidemiology of noncommunicable diseases	PP-1.1; PC-1.2; PC-1.3; PP-4.1; PP-4.2; PC-4.3	<p><b>Knows:</b></p> <ul style="list-style-type: none"> <li>principles of organizing preventive and anti-epidemic measures based on evidence-based medicine;</li> <li>regulatory and legal framework for activities;</li> </ul> <p><b>Can:</b></p> <ul style="list-style-type: none"> <li>evaluate the formulated hypotheses based on the principles of evidence-based medicine;</li> <li>conduct a prompt assessment of the epidemiological situation and the epidemic situation;</li> </ul> <p><b>Owens:</b></p> <ul style="list-style-type: none"> <li>the ability to use databases to find evidence of the validity of decisions made</li> </ul>	UO-1 interview, Abstract PR-4, tests PR-1	Exam Questions 41-60

Scale for assessing the level of achievement of learning outcomes for current and intermediate certification *in the discipline*

<i>Points (rating score)</i>	Levels of achievement Training		<i>Requirements for the formed competencies</i>
	Current & Intermediate certification	<i>Intermediate Attestation</i>	
100 – 86	Increased	"Passed" / "Excellent"	Freely and confidently finds reliable sources of information, operates with the information provided, has excellent skills in analyzing and synthesizing information, knows all the basic methods of solving problems provided for in the curriculum, knows typical mistakes and possible difficulties in solving a particular problem and is able to choose and effectively apply an adequate method for solving a particular problem. trouble
85 – 76	Base	"Passed" / "Good"	In most cases, he is able to identify reliable sources of information, process, analyze and synthesize the proposed information, choose a method for solving a problem and solve it. Makes single serious mistakes in problem solving, experiences difficulties in rare or difficult cases of problem solving, does not know typical mistakes and possible difficulties in solving this or that trouble
75 – 61	Threshold	"Passed" / "Satisfied"	Makes mistakes in determining the reliability of sources of information, is able to correctly decide only Typical most often Occur trouble in (process information, choose a method to solve a problem, and solve it)
60 – 0	Level Not Reached	"Failed" / "Unsatisfactorily"	Does not know a significant part of the program material, makes significant mistakes, performs practical work unconfidently, with great difficulty.

**Scale for assessing the level of competence formation  
in the discipline "Current issues of epidemiology"**

Code and Competency Statement	Stages of competence formation		criteria	Indicators	Points
PC-1 Ability to calculate, evaluate, and analyze indicators characterizing the activities of a medical organization and indicators characterizing the state of health of the population	Knows	principles of organization of applied and practical projects and other activities for the study and modeling of social, economic, epidemiological and other conditions affecting the health and quality of life of the population	knows the modern organization of applied and practical projects and other activities for the study and modeling of	knowledge and use in practical work of the principles of organizing applied and practical projects to study social, economic and anti-epidemic conditions affecting the health of the population	65-71
	Can	implement applied and practical projects and other activities to study and model social, economic, epidemiological and other conditions that affect the health and quality of life of the population	apply applied and practical projects and other measures to study the conditions that affect the health and quality of life of the population	Apply practical projects and other measures to study the conditions that affect the health and quality of life of the population	71-84
	Owns	skills in organizing applied and practical projects and other activities to study and model social, economic, epidemiological and other conditions that affect the health and quality of life of the population	is able to organize practical projects to identify conditions that affect the health and quality of life of the population	possesses the principles of organizing applied and practical projects and other activities to study the conditions and risk factors that affect the health and quality of life of the population	85-100
PC-4 Ability to analyze and evaluate the performance of a medical organization, manage the resources of a medical organization,	Knows (Threshold)	Fundamentals of planning and organization of measures to ensure the protection of public health in accordance with the resources of the medical organization and the	Knowledge of the basics of planning and organizing measures to ensure public health in accordance with the resources of the medical organization and	Ability to explain and apply in practice the basics of planning and organizing measures to ensure the protection of public health in accordance with the resources of the medical	61-70

develop and implement a quality management system in a medical organization, prepare a justification for the volume of medical care in accordance with the resources of the medical organization and the needs of the population		needs of the population	the needs of the population	organization and the needs of the population	
	Can (Advanced)	properly draw up official medical documents, maintain primary medical documentation, carry out measures to ensure health protection, analyze and evaluate the performance of a medical organization	analyze and evaluate the performance indicators of a medical organization, manage the resources of a medical organization, develop and implement quality management systems in a medical organization, justify the volume of medical care in accordance with the resources of the medical organization and the needs of the population	ability to analyze and evaluate the performance of a medical organization, manage the resources of a medical organization, develop and evaluate the performance of a medical organization. implementation of a quality management system in a medical organization in accordance with the resources of the medical organization and the needs of the population	71-84
	Proficient (High)	methods of planning and organizing measures to ensure the health of the population, developing and implementing a quality management system in a medical organization, preparing a justification for the volume of medical care in accordance with the resources of the medical organization and the needs of the population	Mastery of methods for planning and organizing measures to ensure public health, analysis and evaluation of performance indicators of a medical organization, management of resources of a medical organization, development and implementation of a quality management system in a	ability analysis and evaluation of the performance indicators of a medical organization, management of the resources of a medical organization, development and implementation of a quality management system in a medical organization, preparation of justification for the volume of medical care in accordance with the resources of the medical	85-100



			medical organization	organization and the needs of the population	
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## **Methodological Recommendations Defining the Procedures for Assessing the Results of Mastering the Discipline**

*Current assessment of students.* Current certification of students in the discipline "Current issues of epidemiology" is carried out in accordance with the local regulations of FEFU and is mandatory.

Current attestation in the discipline "Current issues of epidemiology" is carried out in the form of control measures (written survey, defense of practical/laboratory works) to assess the actual results of master's training is carried out by the leading teacher.

The objects of assessment are:

- academic discipline (activity in classes, timeliness of various types of tasks, attendance of all types of classes in the discipline being certified);
- the degree of assimilation of theoretical knowledge;
- the level of mastery of practical skills and abilities in all types of educational work;
- results of independent work.

For each object, a description of the assessment procedures is given in relation to the assessment tools used.

*Intermediate certification of* students in the discipline "Current issues of epidemiology" is carried out in accordance with the local regulations of FEFU in the form of an exam.

. Depending on the type of intermediate control in the discipline and the form of its organization, various criteria for assessing knowledge, skills and abilities can be used.

Intermediate attestation in the discipline "Current issues of epidemiology" is carried out in the form of a test in the form of a written answer.

**Test and examination materials.** When assessing students' knowledge, the intermediate control takes into account the amount of knowledge, the quality of their assimilation, understanding of the logic of the academic discipline, and the place of each topic in the course. The ability to freely, competently, logically coherently present what has been studied, the ability to defend one's own point of view with arguments are evaluated.

### **Assessment Tools for Intermediate Attestation**

#### **Exam Questions**

1. The subject and methods of epidemiology, its relation to other disciplines.

2. The role of epidemiology for medical science and public health. Understanding the epidemiology of noncommunicable diseases.

3. History of the development of epidemiology. The significance of the works of D.K. Zabolotny, N.F. Gamaleya, L.V. Gromashevsky, E.N. Pavlovsky, V.A. Bashenin, I.I. Mechnikov.

4. The Place of Epidemiology in the Structure of Medical Disciplines.

5. Definition and structure of the epidemiological method of research.

6. Descriptive and Evaluative Epidemiological Methods /Descriptive Epidemiology/.

7. Analytical Epidemiological Methods /Analytical Epidemiology/.

8. Experimental epidemiological methods.

9. Method of mathematical modeling. Quantitative epidemiology.

10. The Doctrine of the Epidemic Process. Definition of the concept, intensity of the epidemic process.

11. A brief description of the three links of the epidemic process and their interrelation.

12. Definition of "source of infection". Sources of infection in anthroponosis, zoonoses, sapronoses.

13. Mechanism of transmission. Factors of transmission. Ways of spreading the contagious principle.

14. Principles of classification of infectious diseases. Evolutionary Foundations of L.V. Gromashevsky's Classification (Special Position of Zoonoses in Addition to Gromashevsky's Classification).

15. The role of social and natural factors in the development of the epidemic process. The Doctrine of Natural Focality of Infectious Diseases (E.N. Pavlovsky).

16. Epidemic process, its structure, forms of manifestation.

17. Sources of infection; Variants for various diseases. Conditions that determine their epidemiological significance.

18. Mechanism of transmission. Definitions, variants, the concept of ways and factors of transmission.

19. Receptivity of the population. Immunity and non-specific resistance.

20. The influence of the social and natural environment on the development of the epidemic process.

21. Orientation and organization of anti-epidemic work in the epidemic focus.

22. International System for the Prevention of the Importation of Infectious Diseases.

23. Organization of sanitary protection of the country's territory.

24. Organization of anti-epidemic measures in emergency situations.

25. Structure and organization of the work of the State Centers for Sanitary and Epidemiological Surveillance. Sanitary and epidemiological documentation.
26. Modern ideas about disinfection. Types of disinfection and its role in the system of anti-epidemic measures.
27. Chemical disinfectants. Characteristics and methods of their application.
28. Mechanical and physical means of disinfection. Their characteristics, methods of application.
29. Disinsection. Fixed assets and their application.
30. Deratization, Its Methods and Means.
31. Susceptibility to infectious diseases. Types of immunity and its influence on the development of the epidemic process.
32. Basic provisions and requirements for the organization and conduct of preventive vaccinations.
33. Characteristics of biological preparations belonging to the group of vaccines, toxoids.
34. Characteristics of drugs belonging to the group of serums, immunoglobulins, bacteriophages.
35. The role and importance of immunoprophylaxis. Contribution of domestic scientists to the development of vaccine prophylaxis.
36. Current state and prospects of vaccination prophylaxis.
37. Indications for vaccination.
38. Childhood vaccination schedule.
39. Anthroponotic intestinal infections.
40. Comparative characteristics of the epidemic process in acute intestinal infections depending on the pathogen transmission routes.
41. Preventive and anti-epidemic measures for acute intestinal infections.
42. Features of the epidemic process in aerosol infections with exanthema syndrome /measles, rubella, chickenpox/. Anti-epidemic measures.
43. Acute respiratory viral infections, peculiarities of the epidemic process in various nosological forms. Contents of preventive measures to prevent influenza.
44. Epidemiological characteristics of a group of airborne infections.
45. Epidemiological characteristics of a group of intestinal infections.
46. Organization and implementation of anti-epidemic measures in the foci of airborne infections.
47. Organization and implementation of anti-epidemic measures in the foci of intestinal infections.
48. The concept of a natural focus of an infectious disease. Reservoirs of pathogens.

49. Vectors of pathogens of natural focal diseases. Mechanism of human infection.

50. Typhus. Main clinical manifestations, epidemiology. Diagnostic methods, anti-epidemic measures.

51. Sanitary protection of the territory, quarantine measures, their importance in the protection of the state from infectious diseases.

52. Basic concepts of hospital epidemiology. Definition of nosocomial infections (HAIs).

53. Epidemic Process in Various Traditional HAIs: Sources, Factors and Routes of Infection in Acute Intestinal, Airborne Infections, Viral Hepatitis and HIV Infection.

54. Etiology of nosocomial infections, "hospital" strains of pathogens.

55. Possible sources of infection in nosocomial infections.

56. Modes and factors of infection transmission in nosocomial infections.

57. Populations at increased risk of hospital-acquired infections. Fundamentals of epidemiological surveillance of nosocomial infections.

58. The concept of the anti-epidemic regime of the hospital.

59. Preventive and anti-epidemic measures for the prevention of nosocomial infections.

60. Diagnostics and prevention of nosocomial (nosocomial) infections in medical institutions.

### **Criteria for Grading a Student in the Exam in the discipline "Current issues of epidemiology"**

<b>Exam Assessment</b>	<b>Requirements for the formed competencies</b>
"Excellent"	An "excellent" grade is given to a student if he/she has deeply and firmly mastered the program material, comprehensively, consistently, clearly and logically coherently presents it, is able to closely link theory with practice, freely copes with tasks, questions and other types of application of knowledge, and does not find it difficult to answer when changing tasks, uses the material of monographic literature in the answer, correctly justifies the decision made, has versatile skills and methods of implementation practical tasks;
"Good"	A grade of "good" is given to a student if he/she knows the material well, presents it competently and to the point, without making significant inaccuracies in the answer to the question, correctly applies theoretical provisions in solving practical issues and problems, has the necessary skills and techniques for their implementation;
"Satisfactory"	A grade of "satisfactory" is given to a student if he/she has knowledge only of the main material, but has not mastered its details, makes inaccuracies, insufficiently correct formulations, violations of the logical sequence in the presentation of the program material, has difficulties in performing practical work;

"Unsatisfactory"	An "unsatisfactory" grade is given to a student who does not know a significant part of the program material, makes significant mistakes, is uncertain, and performs practical work with great difficulty.
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## **Assessment Tools for Ongoing Attestation**

### **Typical tasks for practical exercises:**

#### **Type 1. Answer the theoretical questions:**

1. Define the terms "outbreak", "epidemic", "pandemic".
2. What are sporadic, epidemic, endemic and exotic morbidity?
3. List the mechanisms of transmission of infectious diseases.
4. What factors influence the epidemic process?
5. What are the principles of organizing preventive and anti-epidemic measures?

#### **Type 2. Solve situational problems:**

##### **Task 1**

Patient K., 35 years old, hospitalized in the infectious diseases department, was diagnosed with viral hepatitis A. 2 weeks after hospitalization, a child turned to the district pediatrician with complaints of headache and fever. An acute respiratory illness was diagnosed. After 3 days, the child developed ictericity of the sclera, and the urine darkened. Viral hepatitis was diagnosed.

During the epidemiological investigation of the case, it was found that surveillance of contacts, their laboratory examination, sanitary and educational work in the focus were not carried out; The general practitioner and the pediatrician were not informed about the presence of a focus of viral hepatitis.

What measures had to be taken at home in connection with the registration of the first case of viral hepatitis A?

##### **Task 2**

A victim of a bite from a domestic dog turned to the trauma center. He has a full course of immunization against tetanus, the last vaccination was 6 years ago.

What infectious diseases does it need to prevent? What measures should be taken for this purpose?

##### **Task 3**

An outbreak of Sonne shigellosis has been reported in the kindergarten. The disease is associated with the consumption of sour cream.

What is the possible source of infection and transmission factors?

**Evaluation criteria (written/oral report, abstract, communication, essay, including those made in the form of presentations)**

An "excellent" grade is given to a student if the student has expressed his opinion on the formulated problem, argued it, accurately determining its content and components. The data of domestic and foreign literature, statistical data, information of a regulatory and legal nature are given. The student knows and possesses the skill of independent research work on the research topic; methods and techniques of analysis of theoretical and/or practical aspects of the field under study. There are no factual errors related to understanding the problem; Graphically, the work is formatted correctly

Assessment "good" - the work is characterized by semantic integrity, coherence and consistency of presentation; no more than 1 mistake was made in explaining the meaning or content of the problem. For argumentation, data of domestic and foreign authors are given. Research skills and abilities are demonstrated. There are no factual errors related to understanding the problem. One or two mistakes were made in the design of the work.

Grade "satisfactory" - the student conducts a fairly independent analysis of the main stages and semantic components of the problem; understands the basic foundations and theoretical justification of the chosen topic. The main sources on the topic under consideration are involved. No more than 2 mistakes were made in the meaning or content of the problem, the design of the work

The rating is "unsatisfactory" - if the work is a paraphrase or completely rewritten source text without any comments or analysis. The structure and theoretical component of the topic are not disclosed. Three or more than three mistakes were made in the semantic content of the problem being disclosed, in the design of the work.

### **Assessment Tools for Ongoing Attestation**

**The control tests** are intended for students studying the course "Legal Issues in Medicine".

When working with tests, you are asked to choose one answer option out of three or four proposed. At the same time, the complexity of the tests is not the same. Among the proposed tests, there are tests that contain several options for correct answers. The student needs to provide all the correct answers.

The tests are designed for both individual and collective solutions. They can be used in the process of both classroom classes and independent work. The selection of tests necessary for the control of knowledge in the process of intermediate certification is made by each teacher individually.

The results of the test tasks are evaluated by the teacher on a five-point scale for attestation or according to the "pass" - "fail" system. An "excellent" grade is given if you answer more than 90% of the tests offered by the teacher. A "good"

score is given if you answer correctly on more than 70% of the tests. Grade "satisfactory" – with a correct answer to 50% of the proposed

### **Sample test tasks**

#### **1. EPIDEMIOLOGY IS THE STUDY OF:**

- 1) Infectious diseases
- 2) pathogens of infectious diseases
- 3) regularities of the epidemic process
- 4) Infectious process

#### **2. THE MANIFESTATION OF THE EPIDEMIC PROCESS IS:**

- 1) acute illness
- 2) chronic illness
- 3) sporadic and epidemic morbidity
- 4) severe form of the disease

#### **3. THE TERM "SPORADIC MORBIDITY" MEANS THE FOLLOWING DISEASES:**

- 1) Single
- 2) group
- 3) Mass
- 4) Specific to the area

#### **4. EXOTIC INFECTIONS ARE INFECTIOUS:**

- 1) diseases that are not specific to the area
- (2) Diseases peculiar to the locality
- 3) viral diseases spread by arthropods
- 4) Mass diseases

#### **5. THE FIRST LINK IN THE EPIDEMIC PROCESS:**

- 1) Susceptible organism
- 2) Transmission mechanism
- 3) source of infection
- 4) Transmission Way

#### **6. THE SOURCE OF INFECTION MAY BE:**

- 1) Patients and bacterial carriers
- 2) Foodstuffs
- 3) Water
- 4) Insects

#### **7. THE SOURCE OF THE CAUSATIVE AGENT IS:**

- 1) any objects on which the pathogen is found
- 2) a live infected organism of a person or animal
- 3) any environment in which the pathogen persists for a long time

4) Carriers

**8. THE FOLLOWING ARE VERY DANGEROUS AS A SOURCE OF INFECTION:**

- 1) patients with a severe course of the disease
- 2) patients with a mild course of the disease, chronic bacterial carriers
- 3) transient bacterial carriers
- 4) patients with exotic diseases

**9. THE GREATEST EPIDEMIOLOGICAL DANGER IS POSED BY PATIENTS WITH THE FOLLOWING FORMS OF THE DISEASE:**

- 1) Mild atypical
- 2) Heavy
- 3) manifest
- 4) Typical

**10. THE GREATEST DANGER AS A SOURCE OF INFECTION IS:**

- 1) Sick person
- 2) Bacterium carrier
- 3) Healthy Person
- 4) Convalescent

**Test Evaluation Criteria**

Assessment is carried out in an e-learning session on a hundred-point scale. The test includes 100 tasks, the maximum test score is 100. Within the framework of the current level of knowledge assimilation in the discipline, a test result of at least 61 points is allowed.