

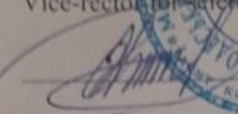
MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Department of general and clinical epidemiology and biosafety with the course of
microbiology and virology

I APPROVE

Vice-rector for scientific and pedagogical work


Volodymyr BURIACHKIVSKYI

September 1, 2024

**WORKING PROGRAM OF EDUCATIONAL DISCIPLINE
"EPIDEMIOLOGY WITH A COURSE OF EVIDENCE-BASED
MEDICINE"**

Level of higher education: second (master's)

Branch of knowledge: 22 "Health care"

Specialty: 222 "Medicine"

Educational and professional program: Medicine

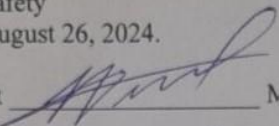
2024

The work program is compiled on the basis of the educational and professional program "Medicine" for the training of specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Health care", approved by the Scientific Council of ONMedU (protocol No. 10 of June 27, 2024).

Developers:

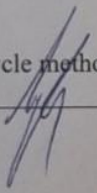
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The work program was approved at the meeting of the department of general and clinical epidemiology and biosafety
Protocol No. 1 dated August 26, 2024.

Head of the department  Mykola GOLUBYATNYKOV

Agreed with the guarantor of the OPP  Valery MARICHEREDA

Approved by the subject cycle commission for medical and biological disciplines of ONMedU
Protocol No. 1 of " 27 " August 2024.

Head of the subject cycle methodical commission for medical and biological disciplines of ONMedU  Leonid GODLEVSKYI

Reviewed and approved at the meeting of the department

Protocol No. ___ of " ___ " _____ 20__

Head of the department _____ Mykola GOLUBYATNYKOV
(signature) (First Name Surname)

Reviewed and approved at the meeting of the department

Protocol No. ___ of " ___ " _____ 20__

Head of Department _____
(signature) (First Name Surname)

1. Description of the academic discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline	
The total number of: Credits – 3.0	Branch of knowledge 22 "Health care"	<i>Full-time education</i> <i>Mandatory discipline</i>	
		<i>A year of training</i>	<i>6</i>
Hours - 90	Specialty 222 "Medicine"	<i>Semester</i>	<i>XI - XII</i>
		<i>Lectures</i>	<i>0 hours</i>
Content subdivisions - 3	Level of higher education second (master's)	<i>Practical</i>	<i>30 hours</i>
		<i>Independent work</i>	<i>60 hours</i>
		<i>Including individual tasks</i>	<i>0</i>
		<i>Final control form</i>	<i>Diff. test</i>

2. The purpose and tasks of the educational discipline, competences, program learning outcomes.

Goal: Acquisition by the acquirer of knowledge and formation of elements of professional competences in the field of epidemiology, and improvement of skills and competences acquired during the study of previous disciplines. Formation of future specialists in knowledge, skills and competencies that will allow to ensure effective management of the epidemic process of infectious diseases, including dangerous, preventive principles regarding somatic diseases, which are to a greater extent socially determined, for further and permanent implementation of the priority of the principle of primary prevention.

Task:

1. Formation of skills and abilities: organization and implementation of anti-epidemic measures in foci of infectious diseases.

2. Improving the skills of effective detection of the source of the pathogen and the leading ways of its transmission, the conditions for the development of the epidemic process and its forecasting.

3. Mastering the ability to interpret the manifestations of the epidemic process of specific nosological forms belonging to different groups of infectious diseases (respiratory, intestinal, transmissible and external covers) in separate territories.

4. Mastering the ability to formulate working hypotheses regarding risk factors for morbidity in individual territories, among different population groups, and in collectives regarding specific infectious diseases.

5. To be able to use the techniques of the epidemiological research method in practice.

The process of studying the discipline is aimed at forming elements of the following competencies:

IR. The ability to solve typical and complex problems, including those of a research and innovation nature in the field of medicine. Ability to continue learning with a high degree of autonomy.

- General (GC):

GC1. Ability to abstract thinking, analysis and synthesis

GC3. Ability to apply knowledge in practical situations

GC4. Knowledge and understanding of the subject area and understanding of professional activity

GC5. Ability to adapt and act in a new situation

GC6. Ability to make informed decisions

GC7. Ability to work in a team

GC8. Ability to interpersonal interaction

- GC10. Ability to use information and communication technologies
- GC11. Ability to search, process and analyze information from various sources
- GC16. The ability to evaluate and ensure the quality of the work performed

- Special (SC):

- SC1. Ability to collect medical information about the patient and analyze clinical data
- SC2. Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results
- SC3. Ability to establish a preliminary and clinical diagnosis of the disease
- SC6. Ability to determine the principles and nature of treatment and prevention of diseases
- SC9. Ability to carry out medical evacuation measures
- SC11. Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility
- SC13. Ability to carry out sanitary and hygienic and preventive measures
- SC14. Ability to plan and carry out preventive and anti-epidemic measures for infectious diseases
- SC16. Ability to maintain medical documentation, including electronic forms
- SC17. The ability to assess the impact of the environment, socio-economic and biological determinants on the state of health of an individual, family, population
- SC20. Ability to conduct epidemiological and medical statistical studies of the health of the population; processing of social, economic and medical information
- SC25. Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results
- SC26. The ability to determine the management tactics of persons subject to dispensary supervision

Program learning outcomes (PLO):

- PLO1. Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
- PLO2. Understanding and knowledge of fundamental and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.
- PLO3. Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
- PLO15. To organize the provision of medical aid and medical evacuation measures to the population and military personnel in emergency situations and hostilities, including in field conditions.
- PLO19. Plan and implement a system of anti-epidemic and preventive measures regarding the occurrence and spread of diseases among the population.
- PLO20. Analyze the epidemiological situation and carry out measures for mass and individual, general and local prevention of infectious diseases.
- PLO21. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.
- PLO23. Assess the impact of the environment on human health to assess the morbidity of the population.
- PLO24. To organize the necessary level of individual safety (own and the persons he cares for) in case of typical dangerous situations in the individual field of activity.
- PLO29. Plan, organize and carry out measures for the specific prevention of infectious diseases, including in accordance with the National calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues, organize additional vaccination campaigns, including immunoprophylaxis measures.

As a result of studying the academic discipline, the student of higher education must:

Know:

- manifestations of the epidemic process
- the procedure for carrying out activities related to the detection, examination, monitoring, localization and elimination of an epidemic center;
- the procedure for carrying out anti-epidemic work of a family doctor and an infectious disease doctor.

Be able:

- to organize and carry out anti-epidemic measures in centers of infectious diseases.
- to organize and carry out anti-epidemic measures in centers of infections related to the provision of medical care.
- interpret the results of using the epidemiological research method in practice.
- interpret the epidemiological, social and economic significance of individual nosological forms.
- fill out the documentation regarding the registration and accounting of infectious patients.
- to determine and interpret the epidemiological manifestations of the incidence of infections belonging to different groups (respiratory, intestinal, transmissible, and infections of external covers).
- use regulatory and instructional documentation of the Ministry of Health of Ukraine and international standards to eliminate foci of specific nosological forms belonging to various groups of infectious diseases (respiratory, intestinal, transmissible and external integuments, ONI).
- to interpret the regularities and features of the course of the epidemic process in infectious diseases that require special tactics.
- master the skillsformulation of working hypotheses regarding the risk factors of morbidity in individual territories, among different population groups and in collectives regarding specific infectious diseases.
- use skillsdetermination of priority problems of prevention of infectious diseases by groups and nosological forms.

3. Content of the academic discipline

Content module 1. General epidemiology. Evidence-based medicine.

Topic 1. Teaching about the epidemic process. The importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease.

Epidemiology. Epidemic process. Components of the epidemic process. Sections of teaching about the epidemic process. Anti-epidemic measures in the center are measures aimed at the components of the epidemic process. Examination of the center of an infectious disease. Completing the relevant documentation. Measures to eliminate the outbreak - measures in relation to the patient and the carrier, decontamination of the environment and persons who communicated with the source of the infectious disease.

Topic 2.Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures.

Assessment of prevention problems based on the analysis of the structure and level of morbidity by groups and nosological forms of infections. Epidemiological diagnostics. Operational epidemiological analysis. Study of manifestations of annual and multi-year dynamics of morbidity. Prediction of manifestations of the epidemic process. Analysis of morbidity by groups, collectives, territories. Planning of anti-epidemic measures. Analytical and experimental

epidemiological studies. Solving the situational task of retrospective epidemiological analysis.

Topic 3. Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies.

Analytical epidemiology: design of analytic observational studies. Case-control studies and cohort studies. The basis of the study. Selection of cases. Choice of control. Comparison group selection rule. Calculation and interpretation of odds ratio and relative risk. Comparison of advantages and disadvantages of analytical studies. Experimental epidemiology: design of experimental epidemiological studies. Randomized controlled trials. Potential and actual effectiveness of medical interventions.

Topic 4. Epidemiological surveillance of non-infectious diseases.

Definition of the concept of "epidemiology of non-infectious diseases". Characteristics of manifestations of non-infectious disease: intensity, dynamics, structure, internal and external risk factors for the development of pathology, epidemiological surveillance. Epidemiological survey of the population. Assessment of prevalence and intensity of diseases. Morbidity monitoring. Stages of planning programs for the prevention of morbidity among the population. Purpose, tasks of the programs, selection of methods and means of prevention of diseases among the population. Criteria for evaluating the effectiveness of programs. Organizational measures to involve prevention programs.

Topic 5. Main types of screening programs, problems of their implementation and analysis of results. Evidence-based prevention.

Definition. Types of screening. Screening criteria Advantages and disadvantages of screening Expediency of developing screening programs Methodological principles of conducting screening studies Effectiveness of screening tests Expediency of implementing scientific data into recommendations for practical medicine.

Topic 6.The value of meta-analysis in scientific research and for clinical practice. Hierarchy of evidence of epidemiological (clinical) studies. Scientific publication as a mechanism for implementing scientific research.

Types of scientific sources (research and review articles, etc.). Understanding Evidence: A Literature Review. Critical literature review: PICO, question type, research type. Literature search: search strategy in electronic databases, medical resources of the Internet. Cochrane Commonwealth. Principles of the Cochrane Commonwealth. Cochrane Electronic Library. Understanding and interpreting the results of meta-analyses and systematic reviews. Disadvantages of meta-analysis and systematic reviews. Principles of clinical epidemiology. Hierarchy of evidence of epidemiological (clinical) studies. The structure of a scientific publication, correct construction. Publication evaluation algorithm.

Topic 7.Anti-epidemic and preventive work in the practice of a family doctor. Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.

Responsibilities of a family doctor and an infectious disease doctor in matters of anti-epidemic work. Early identification of an infectious patient. Collection of epidemiological anamnesis. Early isolation, hospitalization - mandatory and according to indications: clinical and epidemiological. Taking material from the patient for bacteriological examination. Epidemiological examination of the cell: search for the source of the pathogen, establishment of transmission factors, definition of the boundaries of the cell, assessment of the sanitary condition. Carrying out primary anti-epidemic measures. Planning measures aimed at localization and elimination of the cell. Epidemiological monitoring of the center. Timely notification of an infectious disease to the laboratory center. Sanitary and educational work.

The importance of the level of population immunity in the development of infectious diseases. Calendar of preventive vaccinations of Ukraine, its sections. Requirements for immunobiological drugs. Methods of administration of immunobiological drugs, medical contraindications. Post-vaccination reactions and complications. Characteristics of drugs for

urgent prevention of tetanus, rabies (release form, means of administration, dose, reaction to administration).

Topic 8.Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization.

Definition and essence of disinfection, disinsection, deratization. Disinfection: types, methods and methods; characteristics of physical and chemical methods; quality control methods; chemical disinfectants, requirements for them. The role of living vectors in the spread of pathogens of infectious diseases. Chemical insecticides, requirements for them; Disinfection quality control methods. Types of equipment used for disinfection, disinfestation. Types and methods of deratization; characteristics of groups of drugs used for deratization; quality control methods of deratization; types of equipment used for deratization. Definition of the term "sterilization", stages, methods, quality control of sterilization.

Content module 2. Special epidemiology

Topic 9.Infections associated with the provision of medical care. Infection control system.

Concepts of infections related to the provision of medical care. Etiological structure of infections associated with the provision of medical care. Sources of pathogens and ways of transmission. Epidemiological features and strategy for combating this infectious pathology. The infection control system for infections associated with the provision of medical care.

Topic 10.Anti-epidemic measures in foci of infections with fecal-oral transmission mechanism.

Epidemiological characteristics of a group of intestinal infections. Mechanisms, factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and in collectives). Preventive and anti-epidemic measures in centers.

Topic 11.Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism

Epidemiological characteristics of the group of respiratory infections. Mechanisms, factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and in collectives). Preventive and anti-epidemic measures in centers.

Topic 12.Anti-epidemic measures in foci of infections with transmissible, contact and multiple transmission mechanisms.

Epidemiological characteristics of a group of infections with contact and multiple mechanisms of transmission (hemo contact, quarantine infections, etc.). Mechanisms, factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and in collectives). Preventive and anti-epidemic measures in centers.

Content module 3.Anti-epidemic measures in emergency situations and the basics of biosecurity

Topic 13. Peculiarities of carrying out anti-epidemic measures in cases of emergency situations in peacetime under conditions of introduction of infections of international importance.

Factors affecting the spread of infectious diseases in areas of emergency situations. Peculiarities of the epidemic process during an emergency. Basic principles of planning anti-epidemic and preventive measures in emergency zones. Protection of the population in emergency situations. Regime-restrictive measures during observation and quarantine. Collective and individual means of protection of the population.

Topic 14.Anti-epidemic protection of troops, bacteriological intelligence.

Anti-epidemic measures among military personnel. Criteria for assessing the sanitary-epidemic condition of the troops and the area of their deployment. Definition and tasks of bacteriological intelligence. Rules for selecting material for the indication of bacteriological weapons. Indication of bacteriological weapons (specific and non-specific). Tank indication. weapons in abbreviated and expanded volumes.

Topic 15. Differentiated credit.

4. The structure of the academic discipline

No	Topic	Number of hours		
		In general	Practice occupation	SRS
<i>Content module 1. General epidemiology. Evidence-based medicine</i>				
1	The doctrine of the epidemic process. The importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease.	6	2	4
2	Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures.errors.	6	2	4
3	Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies.	6	2	4
4	Epidemiological surveillance of non-infectious diseases.	6	2	4
5	Main types of screening programs, problems of their implementation and analysis of results. Evidence-based prevention	6	2	4
6	The value of meta-analysis in scientific research and for clinical practice. Hierarchy of evidence of epidemiological (clinical) studies. Scientific publication as a mechanism for implementing scientific research.	6	2	4
7	Anti-epidemic and preventive work in the practice of a family doctor. Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.	6	2	4
8	Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization	6	2	4
	<i>Total according to content module 1</i>	48	16	32
<i>Content module 2. Special epidemiology</i>				
9	Infections associated with the provision of medical care. Infection control system.	6	2	4
10	Anti-epidemic measures in foci of infections with fecal-oral transmission mechanism.	6	2	4
11	Anti-epidemic measures in foci of infections with an	6	2	4

12	Anti-epidemic measures in foci of infections with transmissible, contact and multiple transmission mechanisms	6	2	4
	<i>In total, according to content module 2</i>	24	8	16
Content module 3. Anti-epidemic measures in emergency situations and the basics of biosecurity				
13	Peculiarities of carrying out anti-epidemic measures in cases of emergency situations in peacetime under the conditions of introduction of infections of international importance.	6	2	4
14	Anti-epidemic protection of troops, bacteriological intelligence.	6	2	4
15	Differentiated scoring	6	2	4
	<i>Total according to content module 3</i>	18	6	12
	Only hours	90	30	60

5. Topics of lectures / seminars / practical / laboratory classes

5.1. Topics of lectures

Lectures are not provided.

5.2. Topics of seminar classes

Seminar classes are not provided.

5.3. Topics of practical classes

No	TOPIC	Number of hours
1.	The doctrine of the epidemic process. The importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease.	2
2.	Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures	2
3.	Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies.	2
4.	Epidemiological surveillance of non-infectious diseases.	2
5.	Main types of screening programs, problems of their implementation and analysis of results. Evidence-based prevention	2
6.	The value of meta-analysis in scientific research and for clinical practice. Hierarchy of evidence of epidemiological (clinical) studies. Scientific publication as a mechanism for implementing scientific research.	2

7.	Anti-epidemic and preventive work in the practice of a family doctor. Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.	2
8.	Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization	2
9.	Infections associated with the provision of medical care. Infection control system.	2
10.	Anti-epidemic measures in foci of infections with fecal-oral transmission mechanism.	2
11.	Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism	2
12.	Anti-epidemic measures in foci of infections with transmissible, contact and multiple transmission mechanisms	2
13.	Peculiarities of carrying out anti-epidemic measures in cases of emergency situations in peacetime under the conditions of introduction of infections of international importance.	2
14.	Anti-epidemic protection of troops, bacteriological intelligence.	2
15.	Differentiated scoring	2
In total		30

5.4. Topics of laboratory classes

Laboratory classes are not provided.

6. Independent work of a student of higher education

No	TOPIC	Number of hours
1.	The doctrine of the epidemic process. The importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease.	4
2.	Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures.	4
3.	Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies.	4
4.	Epidemiological surveillance of non-infectious diseases.	4
5.	Main types of screening programs, problems of their implementation and analysis of results. Evidence-based prevention	4
6.	The value of meta-analysis in scientific research and for clinical practice. Hierarchy of evidence of epidemiological (clinical) studies. Scientific publication as a mechanism for implementing scientific research.	4
7.	Anti-epidemic and preventive work in the practice of a family doctor. Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations.	4

8.	Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization	4
9.	Infections associated with the provision of medical care. Infection control system.	4
10.	Anti-epidemic measures in foci of infections with fecal-oral transmission mechanism.	4
11.	Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism	4
12.	Anti-epidemic measures in foci of infections with transmissible, contact and multiple transmission mechanisms	4
13.	Peculiarities of carrying out anti-epidemic measures in cases of emergency situations in peacetime under the conditions of introduction of infections of international importance.	4
14.	Anti-epidemic protection of troops, bacteriological intelligence.	4
15.	Differentiated scoring	4
In total		60

7. Teaching methods

Practical training: collection of epidemiological anamnesis, conversation, decision of clinical situational tasks, practicing the skills of developing anti-epidemic measures in the outbreak of an infectious disease, practicing the skills of working with medical documentation (357/o, 058/o), regulatory documents, preventive work, epidemiological investigation of infectious disease cases in organized teams.

Independent work: independent work with the textbook, independent work with the bank of test tasks Step-2, independent solution of clinical tasks.

8. Forms of control and assessment methods (including criteria for evaluating learning outcomes)

Current control: oral survey, testing, assessment of performance of practical skills, solution of situational clinical tasks, assessment of activity in class.

Final control: differential calculation

Evaluation of the current educational activity in a practical session:

- Evaluation of theoretical knowledge on the subject of the lesson:
 - methods: survey, solving a situational clinical problem;
 - the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.
- Evaluation of practical skills and manipulations on the subject of the lesson:
 - methods: assessment of the correctness of the performance of practical skills
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2;
- Evaluation of the work on the ability to conduct an epidemiological investigation, collect an epidemiological history, prescribe anti-epidemic measures for infectious diseases with different transmission mechanisms, with multiple transmission mechanisms, in cases of suspected infectious diseases of international importance, according to the subject of the lesson:
 - methods: assessment of: a) communication skills of communication with the patient, b) the correctness of prescribing and evaluating laboratory tests to confirm the preliminary diagnosis of an infectious disease, c) compliance with the algorithm of anti-epidemic measures aimed at individual links of the epidemic process, d) justification of anti-

epidemic and preventive measures of spread infectious disease in the center, e) drawing up a plan for anti-epidemic work; forecasting the epidemic process in this area

- maximum score – 5, minimum score – 3, unsatisfactory score – 2;

The grade for one seminar session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current assessment criteria for practical training:

Rating	Evaluation criteria
Perfectly "5"	The applicant is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills when collecting an epidemiological history, planning anti-epidemic measures in foci of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting an epidemic situation and interpreting clinical results, laboratory and instrumental research in a specific patient to confirm the preliminary diagnosis of an infectious disease, expresses his opinion on the topic of the lesson, demonstrates epidemiological thinking.
Fine "4"	The applicant has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the collection of an epidemiological history, planning anti-epidemic measures in foci of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting an epidemic situation and interpreting the results of clinical, laboratory and instrumental research in a specific patient to confirm the preliminary diagnosis of an infectious disease with some errors, expresses his opinion on the subject of the lesson, demonstrates epidemiological thinking.
Satisfactorily "3"	The applicant does not have sufficient knowledge of the material, takes part in the discussion and solution of the situational clinical problem without confidence, demonstrates practical skills during the collection of epidemiological anamnesis, planning anti-epidemic measures in outbreaks of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting the epidemic situation and interpreting the results of clinical, laboratory and of instrumental research in a specific patient, to confirm the preliminary diagnosis of an infectious disease with significant errors, expresses his opinion on the subject of the lesson, demonstrates epidemiological thinking.
Unsatisfactorily "2"	The applicant does not possess the material, does not take part in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the collection of epidemiological anamnesis, planning anti-epidemic measures in foci of infectious diseases with various mechanisms of transmission, planning preventive measures, forecasting the epidemic situation and interpreting the results of clinical and laboratory and instrumental research in a specific patient to confirm a preliminary diagnosis of an infectious disease.

Only those applicants who have fulfilled the requirements of the training program in the discipline, have no academic debt and their average score for the current educational activity in the discipline is at least 3.00 points are admitted to the final control in the form of a differentiated credit.

Evaluation of the results of the students' training during the final control - differentiated assessment

The content of the evaluated activity	Number
Solving the situational problem with the assessment of laboratory and instrumental research and the development of anti-epidemic measures aimed at various links of the epidemic process.	2
Answers to theoretical questions.	2

Criteria for evaluating the results of education of students on the diff. offset

Rating	Evaluation criteria
Perfectly "5"	It is presented to the applicant who worked systematically during the semester, showed during the differential assessment versatile and in-depth knowledge of the program material, is able to successfully perform the tasks provided for by the program, mastered the content of the main and additional literature, realized the interrelationship of individual sections of the discipline, their importance for the future profession, showed creative abilities in understanding and using educational program material, showed the ability to independently update and replenish knowledge; the level of competence is high (creative);
Fine "4"	It is awarded to the applicant who has demonstrated complete knowledge of the curriculum material, successfully completes the tasks provided for by the program, mastered the basic literature recommended by the program, has shown a sufficient level of knowledge in the discipline and is capable of their independent updating and renewal in the course of further education and professional activity; the level of competence is sufficient (constructive and variable)
Satisfactorily "3"	It is issued to the applicant who has demonstrated knowledge of the basic curriculum material in the amount necessary for further education and subsequent work in the profession, copes with the tasks provided for in the program, made some mistakes in the answers on the exam and when completing the exam tasks, but has the necessary knowledge for overcoming mistakes made under the guidance of a scientific and pedagogical worker; level of competence - average (reproductive)
Unsatisfactorily "2"	It is presented to the applicant who did not demonstrate sufficient knowledge of the main educational program material, made fundamental mistakes in the performance of tasks provided for by the program, cannot use the knowledge in further studies without the help of a teacher, did not manage to master the skills of independent work; the level of competence is low (receptive-productive)

9. Distribution of points received by students of higher education

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% achievers
B	The next 25% of earners
C	The next 30% of earners
D	The next 25% of earners
E	The next 10% of earners

10. Methodological support:

- Working program of the academic discipline
- Syllabus of the academic discipline
- Situational clinical tasks
- Methodical developments for practical classes
- Electronic bank of test tasks by subdivisions of the discipline.

11. Questions for preparing for the final inspection

Content module 1: General epidemiology and principles of evidence-based medicine

1. The subject and tasks of epidemiology. Epidemic process and its components.
2. Driving forces of the epidemic process. Quantitative and qualitative manifestations of the epidemic process.
3. Peculiarities of the epidemic process in anthroponoses and zoonoses. The concept of sapronosis.
4. Determination of the focus of infectious disease, its borders and directions, according to which its epidemiological examination is carried out.

5. Anti-epidemic measures in centers of infectious diseases.
6. How are infectious patients identified and reported?
7. Source and reservoir of pathogens of infectious diseases. A sick person and a carrier, categories of carriers and their epidemiological significance. Measures for decontamination of patients and carriers as sources of pathogens of infectious diseases.
8. Epidemiological importance of animals. The concept of deratization, types and methods.
9. The theory of the mechanism of transmission of pathogens of infectious diseases L. V. Gromashevskiy. Definition of the transmission mechanism, its links. Factors and ways of transmission of pathogens of infectious diseases.
10. Laws of correspondence of the mechanism of transmission of the primary (epidemiological) localization of the pathogen in the human body.
11. Definition of disinfection, its types and methods. Methods of disinsection.
12. Calendar of preventive vaccinations of Ukraine. Drawing up a plan for preventive vaccinations. Completing accounting and reporting documentation regarding vaccinations.
13. Basic modern regulatory documents in the field of epidemiology.
14. Epidemiological research method, its structure. Use of modern technologies in conducting epidemiological studies. Epidemiological diagnostics
15. Descriptive and evaluation method of epidemiological method.
16. Analytical epidemiological studies: cohort, case-control, etc.
17. Operational epidemiological analysis. Methodology of retrospective epidemiological analysis.
18. Manifestations of the endemic process in the long-term dynamics of morbidity and the causes that determine them.
19. Prediction of manifestations of the epidemic process.
20. The value of screening tests.
21. Design of epidemiological studies. Potential errors in conducting various epidemiological studies.
22. Analysis of systematic reviews. The value of meta-analysis in scientific research and for clinical practice. Conducting exploratory research to obtain evidentiary information.
23. Structure and content of scientific publications. Existing databases.

Content module 2: Special epidemiology

24. Epidemiological features of the group of intestinal infections.
25. Epidemiological features of the group of respiratory tract infections.
26. Epidemiological features of the group of blood infections.
27. Epidemiological features of the group of external covers.
28. Epidemiology and prevention of VLI.
29. Organization of sanitary protection of the territory of Ukraine against the introduction and spread of quarantine infections. Quarantine measures against particularly dangerous infectious diseases.
30. Typhoid. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
31. Viral hepatitis A. Epidemiological features (source of pathogens, factors and waystransmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
32. Shigellosis. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
33. Cholera. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
34. Poliomyelitis. Epidemiological features (source of pathogens, factors and ways of

- transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
35. Diphtheria. Epidemiological features, source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 36. Measles. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 37. Salmonellosis. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 38. Botulism. Epidemiological features (source of pathogens, factors and ways of transmission), preventive and anti-epidemic measures.
 39. Meningococcal infection. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 40. Corona virus infection. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 41. Tularemia. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 42. Viral hepatitis B. Epidemiological features (source of pathogens, factors and waystransmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 43. HIV infection. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 44. Malaria. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures
 45. Typhus and Brill's disease. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 46. Plague. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 47. Tick-borne encephalitis. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.
 48. Hemorrhagic fevers of Ebola, Marburg and Lassa. Epidemiological features (source of pathogens, factors and ways of transmission, manifestations of the epidemic process), preventive and anti-epidemic measures.

Content section 3: Anti-epidemic measures in emergency situations and the basics of biosecurity

49. The main tasks and system of measures for the anti-epidemic protection of troops.
50. The concept of biosafety, its components.
51. Tasks of the sanitary-epidemiological laboratory of the garrison in peacetime and wartime.
52. Anti-epidemic measures in the armed forces regarding the source of the pathogen (detection of infectious patients and carriers in military units).
53. Evacuation and isolation of infectious patients in military units. Types of regulatory and restrictive measures.
54. Measures under increased medical surveillance, observation and quarantine.
55. Disinfection and disinfection methods in military units. Sanitary treatment personnel of the

troops.

56. Urgent prevention (specific and non-specific) in the troops.
57. Principles of planning anti-epidemic measures in the troops.
58. Sanitary and epidemiological intelligence, requirements and tasks. Peculiarities of sanitary-epidemiological intelligence in natural centers.
59. The concept of biological weapons and means of their use. Features of the impressive action of biological agents.
60. Non-specific indication of biological agents. Tasks that she solves.

12. Recommended literature

Main:

1. Vinograd N. O. General epidemiology: study guide / N. O. Vinograd. – IVth. Revised and enlarged edition.- Kyiv AUS Medicine publishing, 2021. - 152 p.
2. Medical Epidemiology: Population Health and Effective Health Care, 5e Raymond S. Greenber. 2020. – 188 p.
3. Tick-borne infections: modern clinical and epidemiological, diagnostic and therapeutic aspects / O.K. Duda, G.V. Batsyura, V.O. Boyko, L.F. Matyukha, L.P. Kotsyubailo// Educational and methodological manual. - Kyiv, "Master Books" publishing house. - 2019. - 117 p.
4. Fundamentals of Ukrainian legislation on health care: Law of Ukraine No. 2801-XII in ed. from 07/24/2020 URL:<https://zakon.rada.gov.ua/laws/show/2801-12#Text>
5. Polymerase chain reaction in laboratory diagnostics of infectious diseases. Educational and methodological manual for doctors / edited by I.V. Dzyublyk, N.G. Horovenko. - K.-2015.-219 p.
6. On ensuring sanitary and epidemic welfare of the population: Law of Ukraine No. 4005-XII in Ed. from 10/16/2020 URL:<https://zakon.rada.gov.ua/laws/show/4004-12#Text>

Additional:

1. Epidemiology: a textbook for students. higher med. education institutions / A. M. Andreychyn, Z. P. Vasylyshyn, N. O. Vinograd; under the editorship I. P. Kolesnikova. Vinnytsia: Nova Kniga, 2012. 576 p.: illustrations.
2. Provision of first aid in emergency situations in the city: educational method. manual K., 2016. 56 p.
3. Measures of anti-epidemic protection in the Armed Forces, and their research in military epidemiology: training. Manual, 2015. 212 p.
4. Infectious diseases / A. O. Golubovsky [and others]; under the editorship O. A. Golubovska. 2nd ed., revised and supplemented - K.: VSV "Medicine", 2018. - 688 p.
5. Infectious diseases: Textbook / Nikitin E.V., Andreychyn M.A., Servetskyi K.L., Kachor V.O., Golovchenko A.M., Usychenko E.M.; Edited by: E.V. Nikitina, M.A. Andreychyna – Ternopil: Ukrmedknyga, 2014. 364 p.

13. Electronic information resources

1. World Health Organization www.who.int
2. Cochrane Center for Evidence-Based Medicine www.cebm.net
3. Cochrane Library www.cochrane.org
4. US National Library of Medicine - MEDLINE www.ncbi.nlm.nih.gov/PubMed
5. Canadian Center for Evidence in Health Care www.cche.net
6. Center for Disease Control and Prevention www.cdc.gov
7. Public Health Center of the Ministry of Health of Ukraine www.phc.org.ua
8. Ukrainian database of medical and statistical information "Health for all": <http://medstat.gov.ua/ukr/news.html?id=203>
9. British Medical Journal www.bmj.com
10. Journal of Evidence-Based Medicine www.evidence-basedmedicine.com