SYLLABUS

1. General information on the course

Full course name	Epidemiology and principles of evidence-based medicine
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра інфекційних хвороб з епідеміологією
Author(s)	Saienko Oleksandr, Chemych Mykola Dmytrovych, Chemych Oksana Mykolaivna, Klymenko Natalia, Svitailo Vladyslav Serhiiovych
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Duration	one semester
Workload	2 ECTS, 60 hours. For full-time course 42 hours are working hours with the lecturer (6 hours of lectures, 36 hours of seminars), 18 hours of the individual study.
Language(s)	English

2. Place in the study programme

Relation to curriculum	Compulsory course available for study programme "Medicine"
Prerequisites	Krok-1, Medical Biology, Latin and Medical Terminology, Medical Informatics, Microbiology, Virology and Immunology, Biochemistry, Medical Biology, Parasitology and Genetics, Hygiene, Social Medicine, Organization and Economics of Health Care, Instrumental Methods of Biomedical Research, General Hygiene and Ecology, Biological and Bioorganic Chemistry, Radiology
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

The goal is to master the theoretical foundations of epidemiology as a general medical science, master the methods of epidemiological diagnosis, study the means of prevention of infectious diseases and their organization, their use in the primary chain of health care, as well as means of preventing possible epidemiological consequences in emergency situations, during military

operations.

4. Contents

Module 1. General epidemiology. Evidence-based medicine
Topic 1 The doctrine of the epidemic process. 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 the doctrine of epidemic process. Anti-epidemic measures in the cell - measures aimed at the components epidemic process. Examination of the center of an infectious disease. Filling out relevant documentation. Measures for the liquidation of the cell - measures in relation to the patient and the carrier, decontamination of the environment, and persons who communicated with a source of infectious disease.
Topic 2 Anti-epidemic and preventive work in the practice of a family doctor. Early identification of an infectious patient. Collection of epidemiological anamnesis. Early isolation and hospitalization are mandatory and according to indications: clinical and epidemiological. Taking material from the patient for bacteriological examination. Epidemiological examination cell: finding the source of the pathogen, establishing transmission factors, defining boundaries cell, assessment of sanitary conditions. Carrying out primary anti-epidemic measures. Planning measures aimed at localization and elimination of the cell. Epidemiological cell monitoring. Timely notification of an infectious disease in the laboratory center. Sanitary and educational work.
Topic 3 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 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, which is used for deratization. Definition of the term "sterilization", stages, methods, quality control of sterilization.
Topic 4 Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations. Evaluation of the effectiveness of immunoprophylaxis. Urgent immunoprophylaxis. Types of immunity and their characteristics. The value of the level of population immunity of the population in development of infectious diseases. Calendar of preventive vaccinations of Ukraine, his sections Requirements for immunobiological drugs. Ways of conducting immunobiological drugs into the body. A list of medical contraindications for preventive screening vaccinations Post-vaccination reactions and complications. Organization of the event immunoprophylaxis. Drawing up a plan of preventive vaccinations. Forms of accounting and reporting documentation on immunoprophylaxis. Vaccination file. Assessment of clinical, immunological and epidemiological effectiveness of immunoprophylaxis. Preparations for urgent immunoprophylaxis. Characteristics of drugs for urgent prevention tetanus, rabies (release form, means of administration, dose, reaction to administration).

Topic 5 Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies. Hierarchy of evidence of 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 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 of research Randomized controlled trials. Potential and actual effectiveness of medical interventions. 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 data, medical resources of the Internet. Cochrane Commonwealth. 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.

Topic 6 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 morbidity Prediction of manifestations of the epidemic process. Analysis of morbidity by groups, collectives, territories. Planning of anti-epidemic measures.

Topic 7 Epidemiological diagnostics. Operational and retrospective epidanalysis. Basic statistical methods used in epidanalysis

Analytical and experimental epidemiological studies. Epidemiological diagnostics. Operational and retrospective epidanalysis. Basic statistical methods used in epidanalysis. Solving the situational task of retrospective epidemiological analysis.

Topic 8 Defense of work on retrospective epidemiological analysis. Final lesson from content module 1.

Defense of work on retrospective epidemiological analysis. Final lesson from content module 1. Distribution of patients with infectious pathology for epidemiological investigation and writing of epicardia

Module 2. Special epidemiology

Topic 9 Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, salmonellosis, typhoid and paratyphoid, viral hepatitis A, E, cholera).

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 by collectives). Preventive and anti-epidemic measures in centers.

Topic 10 Anti-epidemic measures in foci of infections with an aerosol transmission mechanism (COVID-19, influenza, diphtheria, meningococcal infection, epidemic parotitis, measles, chicken pox). 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 by collectives). Preventive and anti-epidemic measures in centers. Filling out the survey map of the epidemiological center.
Topic 11 Anti-epidemic measures in foci of infections with a transmissible transmission mechanism (typhoid, Lyme disease, malaria, tick-borne encephalitis, leishmaniasis). Epidemiological characteristics of groups of transmissible 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 by collectives). Preventive measures for risk groups and in the natural environment
Topic 12 Anti-epidemic measures in foci of infections with a contact mechanism of transmission (HIV, viral hepatitis B, C, D, G, SEN, TTV). Epidemiological characteristics of groups of infections of external integuments. 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 by collectives). Preventive measures for hepatitis with a fecal-oral transmission mechanism and for viral hepatitis with a parenteral transmission mechanism
Topic 13 Epidemiological characteristics of infections associated with the provision of medical care. Infection control in medical institutions. Levels of infection control. Epidemiological characteristics of infections associated with the provision of medical care: relevance, classification, ways of transmission, nosological structure. Infection control in medical institutions. Levels and types of infection control.
Topic 14 Preventive and anti-epidemic measures for particularly dangerous infections (cholera, plague, hemorrhagic fevers). Quarantine measures. International medical and sanitary regulations. Especially dangerous, dangerous and other infectious diseases. Quarantine and other restrictive measures in case of particularly dangerous infectious diseases in the country (national regulatory framework). Personal protective equipment (PPE), their classification and application rules.
Topic 15 Assessment of the sanitary and epidemiological situation in emergency situations and during martial law. Biological weapons and protection against them Theoretical and methodological foundations of epidemiology in emergency situations. Peculiarities of the epidemic process in emergency and military situations. Organization of anti-epidemic and preventive measures among the troops and the population. Assessment of the sanitary-epidemic condition of troops in emergency situations
Topic 16 Biological reconnaissance and identification of bacteriological weapons Biological weapons and protection against them. Basics of the organization of biological intelligence and non-specific and specific identification of biological agents

Topic 17 Protection of the epidemiological kart. Protection of the epidemiological kart.
Topic 18 Final modular control Final modular control: theoretical and practical training

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Collect medical information about the patient (especially epidanamnesis), information about the health status of people who could be infected together with the patient and analyze the data, according to the previous diagnosis for which an urgent notification was sent
LO2	Assess the patient's condition and the results of his specific examination and examination of people who were in contact with him or could be infected in similar conditions
LO3	Control the appointment of examinations to confirm or exclude an infectious diagnosis and control examinations before the patient is discharged
LO4	Be able to substantiate the final diagnosis based on complaints, examination data, laboratory examination data of the patient and the results of examination of contacts in the outbreak
LO5	Know the main signal syndromes of particularly dangerous infectious diseases and the tactics of managing patients (the need for isolation, the imposition of quarantine)
LO6	Know the principles and control of the effectiveness of treatment of infectious patients
LO7	Control the mode of work and rest during the treatment of patients and the need for further dispensary observation
LO8	Control compliance with the purpose of the nature of nutrition in infectious diseases and control over the biosafety of food products
LO9	Monitor safety during the provision of emergency medical care and monitor the effectiveness of sterilization and disinfection measures
LO10	Know and control the prevention of nosocomial infection during the provision of emergency medical care
LO11	Monitor anti-epidemic measures during the evacuation of infectious patients, when deploying hospitals to provide assistance to patients with quarantine infections
LO12	Monitor the effectiveness of disinfection of reusable instruments and equipment used for invasive treatment and examination methods and disposal of disposable consumables
LO13	Control the prevention of intra-hospital infections during the provision of emergency medical care in the intensive care unit and intensive care unit
LO14	Plan sanitary-hygienic and preventive measures to prevent infectious diseases

LO15	Be able to assess the current epidemiological situation and monitor preventive measures aimed at preventing the spread of infectious diseases
LO16	Be able to use the search for the necessary information, according to the principles of evidence-based medicine for the diagnosis, treatment and prevention of infectious diseases
LO17	Conduct surveillance of environmental objects for the purpose of prevention of infectious diseases
LO18	Be able to use personal protective equipment and control the correctness of their use when identifying patients with particularly dangerous diseases and providing them with assistance. Know the basics of emergency prevention of infectious diseases
LO19	Know the algorithm of actions in case of outbreaks of infectious diseases during emergency situations and martial law

6. Role of the course in the achievement of programme learning outcomes

Programme learning outcomes achieved by the course.
For 222 Medicine:

PO1	Identify and identify clinical symptoms and syndromes (according to list 1); using additional data from the patient's history (especially epidemiological), data from the patient's examination, knowledge about the person, his organs and systems, establish the most likely nosological syndrome or previous clinical diagnosis of the disease (according to list 2).
PO2	Collect information about the patient's general condition, evaluate the patient's psychomotor and physical development, the state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information about the infectious diagnosis (according to list 4).
PO3	Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, X-ray, functional and/or instrumental) according to list 4, of patients with diseases of organs and body systems for differential diagnosis of infectious diseases (according to list 2).
PO4	To establish the final clinical diagnosis by making a reasoned decision and logical analysis of the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis), observing the relevant ethical and legal norms, under the control of the head physician in the conditions of a medical institution (according to list 2).
PO5	Determine the main clinical syndrome or what causes the severity of the victim/victim's condition (according to list 3) by making a reasoned decision and assessing the person's condition under any circumstances (at home, on the street, in a health care facility, its unit), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.

PO6	Determine the nature and principles of treatment of infectious patients (conservative, operative) with diseases (according to list 2) in the conditions of a health care institution, at the patient's home and at the stages of medical evacuation, including in field conditions, on the basis of a previous clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes based on the principles of evidence-based medicine, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the supervising physician in the conditions of a medical institution.
PO7	Determine the necessary regime of work and rest when treating infectious patients with diseases (according to list 2) in the conditions of a health care institution, at the patient's home and at the stages of medical evacuation, including in the field, on the basis of a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
PO8	Determine the necessary diet during the treatment of patients with diseases (according to list 2) in the conditions of a health care institution, at the patient's home and at the stages of medical evacuation, including in field conditions on the basis of a preliminary clinical diagnosis, observing relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
PO11	Determine the tactics of providing emergency medical care, under any circumstances, observing the relevant ethical and legal norms, by making a reasoned decision, based on the main clinical syndrome (severity of the condition) of the diagnosis of an emergency (according to list 3) in conditions of limited time using standard schemes based on the principles of evidence-based medicine.
PO12	Provide emergency medical care, under any circumstances, in compliance with the relevant ethical and legal norms, by making a reasoned decision, based on the main clinical syndrome (severity of the condition) of the diagnosis of an emergency (according to list 3) in conditions of limited time in accordance with the defined tactics, using standard schemes based on the principles of evidence-based medicine.
PO13	To organize medical and evacuation measures among the population and military personnel, in the conditions of an emergency and hostilities, including in field conditions, during the extended stages of medical evacuation, taking into account the existing system of medical and evacuation support.
PO14	Perform medical manipulations (according to list 5) in the conditions of a medical institution, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
PO15	Perform manipulations of providing emergency medical aid in limited time, using standard schemes, under any circumstances based on the diagnosis of an emergency (according to list 3).
PO16	Plan and implement a system of sanitary-hygienic and preventive measures for the occurrence and spread of diseases among the population.

PO17	Analyze the epidemiological situation and carry out measures for mass and individual, general and local prevention of infectious diseases.
PO18	Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information. Apply modern digital technologies, specialized software, and statistical data analysis methods to solve complex healthcare problems.
PO19	Assess the impact of the environment on the health of the population.
PO21	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.
PO25	Make effective decisions about health care problems, evaluate the necessary resources, take into account social, economic and ethical consequences.

7. Soft Skills

SS1	Ability to abstract thinking, analysis and synthesis.
SS2	Ability to learn and master modern knowledge.
SS3	Ability to analyze, evaluate and objectively interpret information, make informed judgments and solve complex problems through logical reasoning and evidence-based decision-making (critical thinking)
SS4	Ability to use information and communication technologies.
SS5	Ability to identify, pose and solve problems.
SS6	The ability to act socially responsibly and consciously.
SS7	Ability to adapt and act in a new situation.
SS8	Ability to interpersonal interaction.
SS9	Ability to search, process and analyze information from various sources.
SS10	Ability to learn throughout life (pursuit of continuous personal and professional development, active search for new knowledge, acquisition of new skills and adaptation to new trends and technologies)
SS11	Ability to work in a team.
SS12	The desire to preserve the environment.
SS13	Ability to perceive changes, quickly adapt to new situations and demonstrate resilience in the face of uncertainty and new work requirements (adaptability and flexibility)
SS14	Ability to apply knowledge in practical situations.
SS15	Knowledge and understanding of the subject area and understanding of professional activity.

8. Teaching and learning activities

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

lect.1 "The doctrine of the epidemic process. Importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease." (full-time course)

The doctrine of the epidemic process. Importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease. Principles of evidentiary research. Directions of fighting infectious diseases. The study of this topic involves theoretical work in the study room of the University Clinic, team work, solving situational problems.

pr.tr.1 "The doctrine of the epidemic process. Importance of epidemiology for public health. Basic epidemiological concepts. Anti-epidemic measures in the focus of an infectious disease." (full-time course)

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 for the elimination of 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. The study of this topic involves theoretical work in the study room of the University Clinic, team work, solving situational problems.

Topic 2. Anti-epidemic and preventive work in the practice of a family doctor.

pr.tr.2 "Anti-epidemic and preventive work in the practice of a family doctor." (full-time course)

Early identification of an infectious patient. Collection of epidemiological anamnesis. Early isolation, hospitalization is 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.

Topic 3. Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization.

pr.tr.3 "Disinfection and sterilization. Live carriers of pathogens of infectious diseases. Disinsection. Deratization." (full-time course)

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.

Topic 4. Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations. Evaluation of the effectiveness of immunoprophylaxis. Urgent immunoprophylaxis.

pr.tr.4 "Immunoprophylaxis of infectious diseases. Calendar of preventive vaccinations. Evaluation of the effectiveness of immunoprophylaxis. Urgent immunoprophylaxis." (full-time course)

Types of immunity and their characteristics. 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. Ways of administering immunobiological drugs into the body. List of medical contraindications to preventive vaccinations. Post-vaccination reactions and complications. Organization of immunoprophylaxis. Drawing up a plan of preventive vaccinations. Forms of accounting and reporting documentation on immunoprophylaxis. Vaccination file. Assessment of clinical, immunological and epidemiological effectiveness of immunoprophylaxis. Drugs for urgent immunoprophylaxis. Characteristics of drugs for urgent prevention of tetanus, rabies (release form, means of administration, dose, reaction to administration).

Topic 5. Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies. Hierarchy of evidence of epidemiological (clinical) studies.

pr.tr.5 "Evidence-based medicine and clinical epidemiology. Analytical and experimental epidemiology. Design of observational, analytical, experimental, epidemiological (clinical) studies. Hierarchy of evidence of epidemiological (clinical) studies." (full-time course)

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. Types of scientific sources (research and review articles, etc.). Understanding Evidence: A Literature Review.

Topic 6. Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures.

pr.tr.6 "Epidemiological research method and its structure. Epidemiological diagnostics. Forecasting the development of the epidemic process. Planning of anti-epidemic and preventive measures." (full-time course)

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.

Topic 7. Epidemiological diagnostics. Operational and retrospective epidanalysis. Basic statistical methods used in epidanalysis

pr.tr.7 "Epidemiological diagnostics. Operational and retrospective epidanalysis. Basic statistical methods used in epidanalysis" (full-time course)

Basics of epidemiological analysis. The importance of epidemiological analysis for the control and prevention of infectious diseases. Materials needed for epidemiological analysis. Analysis of long-term and annual dynamics of infectious disease.

Topic 8. Defense of work on retrospective epidemiological analysis. Final lesson from content module 1.

pr.tr.8 "Defense of work on retrospective epidemiological analysis. Final lesson from content module 1." (full-time course)

Final class and assessment of work on retrospective epidemiological analysis

Topic 9. Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, salmonellosis, typhoid and paratyphoid, viral hepatitis A, E, cholera).

pr.tr.9 "Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, salmonellosis, typhoid and paratyphoid, viral hepatitis A, E, cholera)." (full-time course)

Anti-epidemic and preventive measures in foci of infections with fecal-oral transmission mechanism (shigellosis, salmonellosis, typhoid and paratyphoid, viral hepatitis A, E, cholera).

Topic 10. Anti-epidemic measures in foci of infections with an aerosol transmission mechanism (COVID-19, influenza, diphtheria, meningococcal infection, epidemic parotitis, measles, chicken pox).

lect.2 "Anti-epidemic measures in foci of infections with an aerosol transmission mechanism (COVID-19, influenza, diphtheria, meningococcal infection, epidemic parotitis, measles, chicken pox)." (full-time course)

Epidemiological characteristics of infections with an aerosol transmission mechanism (diphtheria, measles, influenza and SARS). Preventive and anti-epidemic measures. Epidemiological surveillance

pr.tr.10 "Anti-epidemic measures in foci of infections with an aerosol transmission mechanism (COVID-19, influenza, diphtheria, meningococcal infection, epidemic parotitis, measles, chicken pox)." (full-time course)

Anti-epidemic measures in foci of infections with an aerosol transmission mechanism (COVID-19, influenza, diphtheria, meningococcal infection, epidemic parotitis, measles, chicken pox).

Topic 11. Anti-epidemic measures in foci of infections with a transmissible transmission mechanism (typhoid, Lyme disease, malaria, tick-borne encephalitis, leishmaniasis).

pr.tr.11 "Anti-epidemic measures in foci of infections with a transmissible transmission mechanism (typhoid, Lyme disease, malaria, tick-borne encephalitis, leishmaniasis)." (full-time course)

Epidemiological characteristics of groups of transmissible 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 by collectives).

Topic 12. Anti-epidemic measures in foci of infections with a contact mechanism of transmission (HIV, viral hepatitis B, C, D, G, SEN, TTV).

pr.tr.12 "Anti-epidemic measures in foci of infections with a contact mechanism of transmission (HIV, viral hepatitis B, C, D, G, SEN, TTV)." (full-time course)

Epidemiological characteristics of groups of infections of external integuments. 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 by collectives).

Topic 13. Epidemiological characteristics of infections associated with the provision of medical care. Infection control in medical institutions. Levels of infection control.

pr.tr.13 "Epidemiological characteristics of infections associated with the provision of medical care. Infection control in medical institutions. Levels of infection control." (full-time course)

Epidemiological characteristics of infections associated with the provision of medical care: relevance, classification, ways of transmission, nosological structure. Infection control in medical institutions. Levels and types of infection control.

Topic 14. Preventive and anti-epidemic measures for particularly dangerous infections (cholera, plague, hemorrhagic fevers). Quarantine measures.

lect.3 "Preventive and anti-epidemic measures for particularly dangerous infections (cholera, plague, hemorrhagic fevers). Quarantine measures." (full-time course)

Epidemiological characteristics of quarantine infections. Preventive and anti-epidemic measures

pr.tr.14 "Preventive and anti-epidemic measures for particularly dangerous infections (cholera, plague, hemorrhagic fevers). Quarantine measures." (full-time course)

Preventive and anti-epidemic measures for particularly dangerous infections (cholera, plague, hemorrhagic fevers). Quarantine measures.

Topic 15. Assessment of the sanitary and epidemiological situation in emergency situations and during martial law. Biological weapons and protection against them

pr.tr.15 "Assessment of the sanitary and epidemiological situation in emergency situations and during martial law. Biological weapons and protection against them" (full-time course) Theoretical, methodical and organizational principles of substantiation and implementation of anti-epidemic measures, as well as epidemic processes of infectious diseases common in the army, in peacetime and wartime and in emergency situations. Peculiarities of the emergence and development of the epidemic process in organized military teams. Prevention of the introduction of infections into the troops, elimination of epidemic centers, reduction of the general level of infectious diseases and prevention of the transfer of such diseases from the troops to the civilian population. Biological weapons and protection of troops against them.
Topic 16. Biological reconnaissance and identification of bacteriological weapons
pr.tr.16 "Biological reconnaissance and identification of bacteriological weapons" (full-time course) Biological weapons. List of bacteriological agents, possible ways of their distribution; ways of exposure and possible consequences of the use of these agents. Principles of assessing the risk of contamination of the territory with bioweapons
Topic 17. Protection of the epidemiological kart.
pr.tr.17 "Protection of the epidemiological kart." (full-time course) Protection of the epidemiological kart
Topic 18. Final modular control
pr.tr.18 "Final module control" (full-time course) Final module control: assessment of practical training, theoretical training.

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Lecture teaching
TM2	Research Based Learning
TM3	Research Based Learning
TM4	Practical training
TM5	Self-study
TM6	Electronic learning
TM7	Case-based learning

The discipline is taught using modern teaching methods (CBL, TBL, RBL), which contribute not only to the development of professional abilities, but also stimulate creative thinking. Acquisition of soft skills by students is carried out during the entire period of studying the discipline.

The ability for analytical and critical thinking, teamwork, perseverance is formed during team-, practice- and case-oriented training, and knowledge and understanding of the subject area is

acquired during lectures and self-study. E-learning stimulates the ability to use information technologies. Research-based learning encourages the development of certainty and persistence about tasks and responsibilities.

9.2 Learning activities

LA1	Evaluation and interpretation of data from examinations of the patient or objects of the environment during work in the hearth
LA2	Carrying out a group practical task during the planning of anti-epidemic measures in the focus of an infectious disease with different ways and mechanisms of transmission
LA3	Preparation for the final control
LA4	Writing a map of the outbreak
LA5	Work with textbooks and relevant information sources
LA6	Electronic learning in systems (Google Meet, Viber, Telegram, MIX learning)
LA7	Solving problems of epidemiological analysis, planning anti-epidemic measures

10. Methods and criteria for assessment

10.1. Assessment criteria

Definition	National scale	Rating scale

10.2 Formative assessment

	Description	**Deadline, weeks**	**Feedback**
FA1 Peer assessment	Partnership interaction aimed at improving results educational activity due to comparison of own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities	During the entire period of studying the discipline	Adjustment of approaches to learning together with students, taking into account the results of the assessment

FA2 Final assessment	A method of effective verification of the level of assimilation of knowledge, abilities and skills from an educational discipline, which allows you to verify the results of training upon completion of the discipline.	In the last discipline lesson.	The maximum number of points for the test is 10 points, provided that 100% of the answers are correct. The minimum score for successfully passing the tests is 6 points (60% of correct answers)
FA3 Writing a map of the epidemiological survey of the outbreak	Writing a map of the outbreak involves epidanamnesis collection, assessment and analysis examination of the patient and contact persons, objects of the surrounding environment in order to establish the source of infection and develop measures to eliminate the outbreak.	Writing from 10 practical lessons, defense - in the penultimate lesson	Counseling of the teacher during the writing of the medical history with oral comments. The applicant receives a grade for writing a medical history (5 points maximum) and defense (5 points maximum)
FA4 Instructions of the teacher in the process of performing practical tasks	The instructions reveal the methods of pedagogical control according to the professional activity of the acquirers. Efficiency is determined by compliance with all stages of practical implementation tasks The effectiveness of the formation of the necessary practical skills and abilities depends on the level of formation of practical competence.	During the entire period of studying the discipline	Advising students in planning anti-epidemic measures in outbreaks of infectious diseases
FA5 Tests (automated tests) to control the educational achievements of applicants	A method of effective verification of the level of assimilation of knowledge, abilities and skills from each subject of an educational discipline. Testing allows you to check the assimilation of educational material from each subject.	During the entire period of studying the discipline	the student must provide at least 60% of the correct answers

FA6 Intermediate evaluation of the implementation of a practical case (preparation, presentation, defense)	The case method allows to reveal and form necessary for further labor activity qualities and abilities medical students, forms clinical thinking, analytical abilities, independence in making a decision, communication skills, skills to work with big enough volume of information.	During the entire period of studying the discipline	Assessment of the student's ability to think clinically, justify their decisions, clearly express their opinions, determine the level of theoretical training, which is reflected in the corresponding assessment
FA7 Survey and teacher's oral comments based on his results	Provides an opportunity to reveal the condition of the purchased item students of experience educational activity according to set goals, find out the prerequisites state of formation of the obtained results, causes of occurrence difficulties, adjust learning process, track the dynamics formation of results training and predict them development.	During the entire period of studying the discipline	According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants

10.3 Summative assessment

	Description	**Deadline, weeks**	**Feedback**
SA1 Current evaluation of the level of theoretical and practical training	current assessment equal theoretical preparation and testing	During the entire period of studying the discipline	Held at each class, the result of performing the ND affects the comprehensive assessment for the practical class. score a minimum of 4 points per lesson, a maximum of 6.

SA2 Evaluation of the writing and protection of the epidemiologic survey map of the outbreak	Writing medical historyinvolves demonstration the ability to work with the patient, and namely: collection of epidanamnesis, information about contact persons, work with medical materials - medical history, data of specific laboratory examinations of the patient, contact persons, environmental objects, etc. The purpose of protection is to determine the likely source of infection, the mechanism and ways of transmission, and the development of anti-epidemic measures that prevent the spread of the	According to the calendar and thematic plan	A student can get a maximum of 12 points. 6 points are awarded for writing, 6 points for defense. The minimum number of points is 8. The minimum number of points for a successful defense is 6 points
SA3 Solving the individual task of retrospective epidemiological analysis	Complex development of the practical component of the program - calculation of morbidity indicators, drawing up graphs or diagrams based on them, assessing morbidity and drawing up a plan of measures to reduce morbidity for a certain nosology or group of infectious diseases in a safe simulation environment for students. Provides an opportunity to master skills	According to the calendar and thematic plan	A student can get a maximum of 8 points. 5 points are awarded for writing and defense. The minimum number of points for a successful defense is 6 points
SA4 Final Modular control:	Students who have successfully mastered the material from disciplines, have no missed classes, solved epidanalysis tasks and wrote and defended an epidkarta and scored at least 72 points. final includes testing, interview and practical skills computer testing, defended medical history.	last lesson	The applicant can get 80 points for PMK. The minimum number of points a student must receive is 48 points
SA5 Intermediate modular control	Students who have no arrears for the previous 7 classes are admitted to intermediate modular control. During control, knowledge of general epidemiology, epidemiological diagnostics and immunoprophylaxis of infectious diseases is assessed	in the 8th lesson	the applicant can get from 6 to 10 points

Form of assessment:

		Points	Можливість перескладання з метою підвищення оцінки
The first semester of teaching		**200 scores**	
SA1. Current evaluation of the level of theoretical and practical training		**96**	
	16x6	96	No
SA2. Evaluation of the writing and protection of the epidemiologic survey map of the outbreak		**6**	
		6	No
SA3. Solving the individual task of retrospective epidemiological analysis		**8**	
		8	No
SA4. Final Modular control:		**80**	
		80	No
SA5. Intermediate modular control		**10**	
		10	No

When learning the materials of the module, the student is awarded a maximum of 6 points for each practical lesson (the grade is given in the traditional 4-point grading system). The maximum number of points that a student can receive in practical classes during the academic year is 896. The following points are awarded for the defense of work on retrospective epidemiological analysis: "5" - 8 points, "4" - 6 points, "3" - 5 points, " 2" - 0 points. Protection of the epidemiological map: "5" - 12 points, "4" - 10 points, "3" - 8 points, "2" - 0 points. For meaningful module control 1, a student can receive a maximum of 18 points, the minimum required point is 11. The maximum number of points for the student's current educational activity is 120. The student is admitted to the final module control under the condition that the requirements of the educational program are met and if for the current educational activity he scored no less than 72 points. The final module control is carried out according to the schedule at the end of the cycle. The grade for the final module control is given in the traditional 4-point grading system with further conversion into points, while the grade "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. The final module control is credited to the student if he scored at least 48 out of 80 points.

11. Learning resources

11.1 Material and technical support

MTS1	Library funds
MTS2	Computers, computer systems and networks
MTS3	Graphic means (pictures, drawings, geographical maps, diagrams, posters, etc.)
MTS4	Medical facilities/premises and equipment of the University Clinic

MTS5	Regulations
MTS6	Information and communication systems

11.2 Information and methodical support

Essential Reading	
1	Modern Epidemiology, 4th edition / TL Lash, TJ Vander Weele, S Haneuse, KJ Rothman. Wolters Kluwer, 2021. – 1250 p.
2	Infectious disease : textbook / O. A. Holubovska, M. A. Andreichyn, Shkurba et al.; edited by O. A. Holubovska. – Kyiv : AUS Medicine Publishing, 2020. – 664 p.
Supplemental Reading	
1	Epidemiology of infectious disease: manual / M. T. Gafarova. – Simferopol, 2018
2	Introduction to Epidemiology. 3 rd edition / Ilona Carneiro. Milton Keynes, United Kingdom, 2017. - 306 p.
4	General Epidemiology : study guide / N.O. Vynograd. — 2nd ed., corrected. — Kyiv : AUS Medicine Publishing, 2018. — 128 p.
Web-based and electronic resources	
1	Official website of the Ministry of Health of Ukraine - access mode: http://www.moz.gov.ua
2	WHO official website - access mode: http://www.who.int
3	Cochrane Community. Open materials for training - access mode: http://www.cochrane-net.org/openlearning/
4	Medline database of the US National Library of Medicine - access mode: http://www.pubmed.gov
5	Oxford Centre for Evidence-based Medicine - access mode: http://www.cebm.net/

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