

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)	Svitailo Vladyslav Serhiiovych, Chemych Mykola Dmytrovych, Saienko Oleksandr, Klymenko Natalia
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 40 hours are working hours with the lecturer (4 hours of lectures, 36 hours of seminars), 20 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, disinfection. 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 Defense of the epidemiological card. Defense of the epidemiological card.
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	To integrate foundational professional knowledge to independently plan and implement their future educational path with a high degree of autonomy.
LO2	To interpret current scientific findings and interdisciplinary issues in the field of medicine based on a critical analysis of professional information.
LO3	To identify the main clinical symptoms and syndromes using standard patient examination techniques to establish a preliminary diagnosis.
LO4	To collect the patient's medical history and complaints, assessing their psychomotor and physical development in accordance with age-specific characteristics.
LO5	To justify the final clinical diagnosis through a comparative analysis of subjective, objective, and instrumental data under the guidance of the supervisor.
LO6	To prescribe mandatory and additional laboratory or diagnostic tests for the purpose of differential diagnosis.
LO7	To differentiate the primary clinical syndrome that determines the severity of the victim's condition in extreme field conditions or during emergencies.
LO8	Critically evaluate the choice between conservative and surgical treatment of a patient during medical evacuation in accordance with established protocols.
LO9	To determine the optimal regimen for work, rest, and diet for the patient based on approved clinical algorithms.
LO10	To provide emergency medical care for urgent conditions under time-sensitive circumstances in accordance with official clinical protocols.
LO11	To coordinate evacuation and medical care for civilians and military personnel during emergencies.
LO12	To perform basic medical procedures in a healthcare facility or at home in compliance with legal and bioethical standards.
LO13	To keep the patient's primary medical records and issue documents certifying the individual's temporary incapacity to work.
LO14	To implement planned anti-epidemic and preventive measures to prevent the spread of disease among the population.
LO15	To analyze the local epidemiological situation regarding infectious disease incidence in order to implement mass and individual prevention measures.
LO16	To conduct targeted searches for the necessary medical information in electronic databases and professional literature.

LO17	To use specialized software and statistical analysis methods to process medical data accurately.
LO18	To evaluate the nature of the impact of environmental factors on the trends and incidence rates of disease in the population.
LO19	To ensure an adequate level of personal safety in the event of typical hazardous situations arising in the course of professional activities.
LO20	To evaluate the available material and technical resources, as well as the socioeconomic and ethical implications, when making decisions in the field of healthcare.
LO21	To organize specific immunization programs for the population and additional vaccination campaigns in accordance with the National Immunization Schedule.

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

Programme learning outcomes achieved by the course.

For 222 Medicine:

PO1	Possess comprehensive knowledge of the structure of professional activity. Perform professional activities that require the continuous updating and integration of knowledge. Assume responsibility for professional development and demonstrate the capacity for further independent professional learning with a high level of autonomy.
PO3	Possess specialized conceptual knowledge, incorporating scientific advancements in healthcare, that serves as a foundation for research; critically reflect on medical issues and related multidisciplinary problems, including the early intervention system.
PO4	Isolate and identify primary clinical symptoms and syndromes (according to List 1); establish a provisional clinical diagnosis of a disease (according to List 2) using standard methodologies, based on preliminary patient history, physical examination findings, and knowledge of human anatomy, organs, and systems.
PO5	Collect patient complaints, medical and life history; assess the patient's psychomotor and physical development, as well as the state of bodily organs and systems; evaluate diagnostic information based on laboratory and instrumental findings (according to List 4), accounting for the patient's age.
PO6	Establish a definitive clinical diagnosis by making informed decisions and analysing subjective and objective data obtained from clinical and supplementary examinations; perform differential diagnosis while adhering to relevant ethical and legal standards, under the supervision of a supervising physician within a healthcare facility setting (according to List 2).
PO7	Prescribe and analyse supplementary (mandatory and elective) diagnostic methods (laboratory, functional, and/or instrumental) (according to List 4) for patients with diseases of organs and bodily systems to perform differential diagnosis (according to List 2).

PO8	Determine the primary clinical syndrome or the underlying cause of a casualty's/affected individual's critical condition (according to List 3) by making informed decisions and assessing the individual's condition under any circumstances (inside or outside a healthcare facility), including emergency situations, combat operations, field settings, and environments with limited time and information.
PO9	Determine the nature and principles of patient treatment (conservative, surgical) for diseases (according to List 2), accounting for the patient's age, within a healthcare facility, outside it, and at stages of medical evacuation (including field conditions); formulate this based on a provisional clinical diagnosis, adhering to relevant ethical and legal standards, by making informed decisions using existing algorithms and standard regimens; justify personalized recommendations if an extension of the standard regimen is required, under the supervision of a supervising physician in a medical institution.
PO10	Determine the required regimen of work, rest, and nutrition based on the definitive clinical diagnosis, adhering to relevant ethical and legal standards, by making informed decisions according to established algorithms and standard protocols.
PO14	Determine management tactics and deliver emergency medical care for urgent conditions (according to List 3) under time-sensitive constraints, in compliance with existing clinical protocols and standards of care.
PO15	Organize the provision of medical care and medical evacuation measures for the civilian population and military personnel during emergencies and combat operations, including field conditions.
PO17	Perform medical procedures and manipulations (according to List 5) in a hospital, home, or occupational environment based on a provisional clinical diagnosis and/or patient status indicators, making informed decisions and adhering to relevant ethical and legal standards.
PO18	Assess an individual's functional status, disabilities, and the duration of temporary incapacity for work, issuing the relevant documentation within a healthcare facility based on disease data, clinical course, and occupational characteristics; maintain patient and population-level medical documentation in compliance with regulatory frameworks.
PO19	Plan and implement a system of antiepidemic and prophylactic measures to prevent the onset and spread of diseases among the population.
PO20	Analyse the epidemiological situation and implement mass, individual, general, and localized prophylactic measures for infectious diseases.
PO21	Retrieve required information from professional literature, databases, and other sources; analyse, evaluate, and apply this information.
PO22	Utilize modern digital technologies, specialized software, and statistical data analysis methods to resolve complex healthcare challenges.
PO23	Evaluate environmental impacts on human health to assess population morbidity patterns.
PO24	Ensure the required level of individual safety (personal and for individuals under care) during typical hazardous situations within one's personal field of activity.

PO28	Make effective decisions regarding healthcare challenges, evaluate required resources, and account for social, economic, and ethical consequences.
PO29	Plan, organize, and execute specific prophylactic measures against infectious diseases, including mandatory and recommended immunizations according to the National Vaccination Schedule; manage vaccine stocks and organize supplementary vaccination campaigns, including immunoprophylactic measures.

7. The role of the course in the development of program competencies

Program competencies addressed by the course:

For 222 Medicine:

PC1	GC 1. Ability to think abstractly, analyse, and synthesize.
PC2	GC 2. Ability to learn and master modern knowledge.
PC3	GC 3. Ability to apply knowledge in practical situations.
PC4	GC 4. Knowledge and understanding of the subject area and understanding of the professional activity.
PC5	GC 5. Ability to adapt and act in new situations.
PC6	GC 6. Ability to make informed decisions.
PC7	GC 7. Ability to work in a team.
PC8	GC 8. Ability to engage in interpersonal interaction.
PC9	GC 10. Ability to use information and communication technologies.
PC10	GC 11. Ability to search for, process, and analyze information from various sources.
PC11	GC 12. Determination and persistence concerning tasks and responsibilities undertaken.
PC12	GC 15. Ability to preserve and enhance moral, cultural, and scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place within the general system of knowledge about nature and society, and in the development of society, engineering, and technologies; to utilize various types and forms of physical activity for active recreation and leading a healthy lifestyle.
PC13	SC 1. Ability to gather patient medical history and analyse clinical data.
PC14	SC 2. Ability to determine the required scope of laboratory and instrumental investigations and evaluate their results.
PC15	SC 3. Ability to establish provisional and clinical diagnoses of diseases.
PC16	SC 4. Ability to determine the appropriate work and rest regimen for the treatment and prevention of diseases.
PC17	SC 5. Ability to determine dietary patterns for the treatment and prevention of diseases.
PC18	SC 6. Ability to determine the principles and nature of disease treatment and prevention.

PC19	SC 7. Ability to diagnose medical emergencies.
PC20	SC 8. Ability to determine management strategies and provide emergency medical care.
PC21	SC 9. Ability to execute medical evacuation and triage measures.
PC22	SC 10. Ability to perform medical procedures and manipulations.
PC23	SC 11. Ability to solve medical problems in new or unfamiliar environments amidst incomplete or limited information, incorporating aspects of social and ethical responsibility, including the early intervention system.
PC24	SC 13. Ability to implement sanitary, hygienic, and preventive measures.
PC25	SC 14. Ability to plan and implement preventive and antiepidemic measures regarding infectious diseases.
PC26	SC 15. Ability to perform medical assessments of work capacity.
PC27	SC 16. Ability to maintain medical records, including electronic health records.
PC28	SC 17. Ability to assess the impact of environmental, socioeconomic, and biological determinants on the health status of individuals, families, and populations.
PC29	SC 20. Ability to conduct epidemiological and health-statistical studies of population health; processing social, economic, and medical data.
PC30	SC 21. Ability to communicate knowledge, conclusions, and reasoning regarding healthcare issues and related matters clearly and unambiguously to both specialists and non-specialists, including learners.
PC31	SC 24. Adherence to ethical principles when working with patients and laboratory animals.

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. Defense of the epidemiological card.
pr.tr.17 "Defense of the epidemiological card." (full-time course) Defense of the epidemiological card
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	Practical training
TM4	Self-study
TM5	Electronic learning
TM6	Case-based learning
TM7	Team 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.

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
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$164 \leq RD < 169$
	4 (Good)	$140 \leq RD < 163$
Fair but with significant shortcomings	3 (Satisfactory)	$127 \leq RD < 139$
	3 (Satisfactory)	$120 \leq RD < 126$
Fail – some more work required before the credit can be awarded	2 (Fail)	$70 \leq RD < 119$
	2 (Fail)	$0 \leq RD < 69$

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 history involves 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. Defence 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 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
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11.2 Information and methodical support

Essential Reading	
1	Baker, Charlotte / Epidemiology. Open Education Initiative at Virginia. 2023 - 166p. https://doi.org/10.21061/epidemiology .
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.
3	Infectious disease : textbook / O. A. Holubovska, M. A. Andreichyn, Shkurba et al.; edited by O. A. Holubovska. – Kyiv : AUS Medicine Publishing, 2020. – 664
4	General Epidemiology : study guide / N.O. Vynograd. — 2nd ed., corrected. — Kyiv : AUS Medicine Publishing, 2018. — 128 p.
5	M. D. Chemych, Yu. S. Lendych, V. S. Svitailo, O. S. Saienko, N. V. Klymenko ENDOTHELIAL DYSFUNCTION AND PULMONARY LESIONS IN LONG-COVID. Infectious Diseases – Infektsiyni khvoroby. 2025. 2(120). C. 47-51 DOI: 10.11603/1681-2727.2025.2.15300.
6	Saienko O., Ptashenchuk T., Kryvtsova K., Chemych O., Svitailo V., Klymenko N., Chemych M. Hantavirus infection in the European region: a current view of the problem. Medical Affair. 2026. 1. C. 30-41 DOI: 10.31640/LS-2026-1-04.
7	Chemych M., Chemych O., Seemann O., Klymenko N., Svitaylo V., Saienko O., Delikatna T. MODERN VIEWS ON THE EPIDEMIOLOGY, ETIOLOGY, AND CLINICAL PRESENTATION OF LYME DISEASE. Eastern Ukrainian Medical Journal. 2025. 13 (3). C. 637-646 DOI: 10.21272/eumj.2025;13(3):637-646.
8	Chemych M., Saienko O., Svitailo V., Klymenko N., Chemych O. MAIN IMMUNOGENETIC, PATHOGENETIC, AND CLINICAL FEATURES OF EPSTEIN-BARR VIRUS INFECTION (literature review). Inter Collegas. 2025. 2. №4 DOI: 10.35339/ic.2025.12.2.css.
9	Chemych M., Dmytrenko Y., Svitailo V., Klymenko N., Saienko O. THE RELATIONSHIP BETWEEN CHRONIC HEPATITIS C VIRUS AND DIABETES MELLITUS. Eastern Ukrainian Medical Journal. 2025. 13 (2). C. 407-416 DOI: 10.21272/eumj.2025;13(2):407-416.
10	Loboda A.M., Klymenko N.V., Smiiian K.O., Melekhovets O.K., Vasylieva O.H., Chemych O.M., Khatynska Z.V. COVID-19 and other acut respiratory viral infections. Вісник проблем біології і медицини. 2024. 3(174). C. 108-117 DOI: 10.29254/2077-4214-2024-3-174-108-117.
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/