

**SYLLABUS OF THE EDUCATIONAL COMPONENT
BASICS OF INFECTION CONTROL IN DENTISTRY**

(title of the educational component)

Specialty: 221 «Dentistry»
Educational and professional program: Dentistry
Component code in the educational program: _EC 48
Higher education level: _ the second (master's degree)
Form of education: _ full-time _____
Year of study: __4
Semester(s): __VIII _____
Type of educational component: _ elective _____
Academic year: **2027-2028**

Volume: **_3,0_ credits ECTS (90 hours)**
Training sessions: practical, consultations
Final control: credit
Prerequisites: _ **MC 4** Medical Biology, **MC 9** Philosophy, **MC 10** Life Safety. Fundamentals of Bioethics and Biosafety. Occupational Safety in the Industry **MC 15** Microbiology, Virology and Immunology **MC 32** Epidemiology
(course of the subject of general education in high school or component(s) code(s) in the EPP)

Department/Unit: _Epidemiology Department 12 Trinkler Street, 3rd Floor of the Red Building
Head of the educational component: __Viktoriiia Makarova
vi.makarova@knu.edu.ua

(Full name and email of the teacher responsible for the content of the educational component)

Page of the educational component in the Distance Learning System of KhNMU (Moodle):

<https://distance.knu.edu.ua/course/view.php?id=662>

(link to the page of the educational component in the Distance Learning System of KhNMU)

DESCRIPTION OF THE EDUCATIONAL COMPONENT

Brief description of the content of the subject

The Discipline addresses the Issue of Healthcare-Associated Infections (HAI) in the Modern World. The Program is aimed at studying the latest scientific data on the epidemiological features of HAI, ensuring the Safety of Healthcare in Healthcare Facilities, and using epidemiological Methods to develop scientifically based Measures to prevent Healthcare-Associated Infections. Infections acquired in Healthcare Facilities cause significant medical, social, and economic losses and can spread to the Population outside Hospitals. The Key to preventing HAI is the careful Application of Prevention and Infection Control Measures in Healthcare Facilities. HAI Prevention is an important Component of Patient Safety and ensuring the Quality of Healthcare.

PURPOSE OF THE COURSE: Formation of Knowledge about the patterns of the Epidemic Process of Infections, which are related to the provision of medical Care and modern Principles of organizing Infection Control, epidemiological Surveillance and Prevention of this Pathology.

LEARNING OUTCOMES: *(in a language understandable to applicants)*

1. work with regulatory documents;
2. know and apply in practice standard preventive measures for the prevention of HAI with an emphasis on hand hygiene of medical personnel;
3. know the rules and practices of hand hygiene, perform hand hygiene.
4. know and apply in practice measures for the prevention of HAI based on the routes of transmission of infectious disease pathogens;
5. use of bundles for the prevention of device-associated HAI;
6. rational prescription of antimicrobial drugs in dental practice;
7. understanding of the infection control system in a healthcare facility.
8. know the rules for the selection and use of personal protective equipment, be able to put on and take off personal protective equipment.

CONTENT OF THE EDUCATIONAL COMPONENT

List of lecture topics (_0_ hours):

Lectures are not conducted

List of topics of practical / laboratory classes / seminars (__20__ hours):

1. Epidemiological features Healthcare-Associated Infections (HAI). Definition of HAI. Relevance of HAI
2. Classification of HAI.
3. Epidemiological characteristics of HAI pathogens. Hospital strain of the pathogen.
4. Mechanism of development of the epidemic process of HAI. Characteristics of sources of infection, mechanisms of transmission of HAI pathogens, susceptible organism.
5. Manifestations of the epidemic process of HAI. Modern structure of HAI.
6. Features of the spread of HAI in healthcare institutions providing dental care.
7. Regulatory and legal and methodological framework for HAI.
8. Epidemiological features of HAI of different groups. Infections of the surgical area, respiratory tract infections.
9. Catheter-associated urinary tract infections. Bloodstream infections.
10. Contact infections (viral hepatitis B and C, HIV infection).
11. Infection control system in healthcare facilities.
12. Standard, contact, droplet, airborne protective measures when providing medical care to patients.
13. Personal protective equipment
14. Hand hygiene of medical personnel.
15. Antimicrobial resistance of pathogens, problems, countermeasure strategies.
16. Credit.

List of topics of independent work of the student (__70__ hours)

1. Waste management
2. Medical linen management
3. Regulatory, legal and methodological framework for HAI.
4. Fundamentals of ensuring a safe environment for patients and staff in healthcare institutions
5. Epidemiological diagnostics of HAI.
6. Preventive and anti-epidemic measures in the infection control system. Types of measures and means in patient care
7. Principles of professional cleaning of healthcare institutions.
8. Safe algorithms for performing medical procedures. Injection safety.
9. Safety rules when performing professional duties by medical personnel.
10. A set of emergency measures in case of emergencies.
11. Personal protective equipment.
12. Immunization of personnel. Medical examination of personnel.
13. Reprocessing of reusable medical devices
14. Hand hygiene of medical personnel
15. Respiratory hygiene and cough etiquette
16. Air, contact and droplet protection
17. Antimicrobial resistance, causes, countermeasure strategies.
18. Preparation for the test

Consultations: online by prior arrangement with the department lecturer using the corporate email of the lecturer/Department of Epidemiology of KhNMU

Teaching methods: practical work, solving situational tasks and cases, narrative explanation, conversation, discussion, presentation, educational videos.

EVALUATION

Current Learning Activities (CLA). Assessment of the success of education seekers is carried out in accordance with the Instructions for assessing the educational activities of higher education seekers at KhNMU (https://knmu.edu.ua/doc_block_type/instrukcziyi-navchalnogo-proczesu/)

Grades for practical classes are given according to the traditional 4-point system: “excellent”, “good”, “satisfactory” or “unsatisfactory” in accordance with the criteria for assessing knowledge and skills.

Submission of assignments late for unwarranted reasons entails a reduction in the grade in accordance with the percentage of delay in time from the time of completing the assignment. Assignments are checked within 24 hours. Grades are given in the electronic journal. Unsatisfactory grades are worked out in accordance with the Regulations on the procedure for working out academic classes by students of KhNMU ([chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://knmu.edu.ua/wp-content/uploads/2021/05/pol_por-vidprac-zaniat.pdf](https://knmu.edu.ua/wp-content/uploads/2021/05/pol_por-vidprac-zaniat.pdf)).

At the end of the semester, the semester average grade is converted into a multi-point grade (120 – 200 points) in accordance with Table 2 of the Assessment Instructions (see above). The arithmetic average of the PND with the addition of points for completed individual tasks (performed at will) constitutes the total learning activity (TLA).

Individual tasks (IT) are evaluated up to 10 points. Individual student tasks (hereinafter referred to as ITS) are not a mandatory element, but if the student wishes, they can be completed and are evaluated in ECTS points (no more than 10), which are added to the sum of points scored for current educational activities. At the meeting of the department, a list of individual tasks (participation with reports in student conferences, specialized Olympiads, preparation of analytical reviews with presentations with plagiarism check) was approved, specifying the number of points for their completion, which can be added as incentives.

Final control. Credit

Grade in subject (GS). $GS=CLA+IT$

Appealing the results of the final control is carried out in accordance with the procedure established in KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_apel_kontrol.pdf).

POLICIES OF THE EDUCATIONAL COMPONENT

Recommendations for working on the course: take an active part in all forms of work in classes, devote the hours allocated for independent work, to completing the necessary tasks, namely, "Analysis of a scientific publication", "Analysis of the incidence of a certain infectious disease" to preparing for classes, ask questions during classes, attend consultations, submit assignments on time and perform all forms of control. Explanations regarding the completion of tasks assigned to the applicant's independent work are provided by the teacher in the 1st class.

Attendance at classes. Attendance at lectures and practical classes is mandatory. The dress code during offline classes is a medical gown. If you are more than 5 minutes late, you may not be allowed to class. Missed classes are made up in accordance with the Regulations on the procedure for completing classes by students of KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_ad-1.pdf).

Academic integrity. KhNMU stands on the positions of zero tolerance to manifestations of academic dishonesty. Any violations of the principles of academic integrity entail responsibility in accordance with the procedure established by KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_ad-1.pdf).

Use of electronic gadgets and artificial intelligence tools. allowed for educational activities, subject to teacher permission.

Policy on persons with special educational needs. Applicants with special educational needs should contact a teacher to develop an individual educational trajectory.

Teacher Response Time: 24 hours.

Technical requirements for the course:

- access to a computer, laptop, tablet or smartphone
- Corporate Google account with your own photo
- skills in working with Google Workspace (Google Meet, Docs, Sheets, Slides, Forms) and Moodle

Technical support: ASM (ev.shevtsov@knmu.edu.ua), Google (tehotdelknmu@gmail.com), Moodle (al.korol@knmu.edu.ua)

RECOMMENDED SOURCES

1. Molinari J. A., Harte J. A. *Cottone's Practical Infection Control in Dentistry*. 4th ed. Philadelphia : Wolters Kluwer, 2021. 352 p.
2. Miller C. H., Palenik C. J. *Infection Control and Management of Hazardous Materials for the Dental Team*. 7th ed. St. Louis : Elsevier, 2022. 400 p.
3. World Health Organization. *Global Guidelines for the Prevention of Surgical Site Infection*. 2nd ed. Geneva : WHO, 2021. 184 p. URL: <https://www.who.int/publications/i/item/978924155047> (accessed: 11.03.2026).
4. World Health Organization. *WHO Guidelines on Hand Hygiene in Health Care*. Geneva : WHO, 2020. URL: <https://www.who.int/publications/i/item/9789241597906> (accessed: 11.03.2026).
5. Centers for Disease Control and Prevention. *Guidelines for Infection Control in Dental Health-Care Settings*. Atlanta : CDC, 2020. URL: <https://www.cdc.gov/dental-infection-control/index.html> (accessed: 11.03.2026).
6. Centers for Disease Control and Prevention. *Guideline for Disinfection and Sterilization in Healthcare Facilities*. Atlanta : CDC, 2021. URL: <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/index.html> (accessed: 11.03.2026).
7. Centers for Disease Control and Prevention. *Guidelines for Environmental Infection Control in Health-Care Facilities*. Atlanta : CDC, 2020. URL: <https://www.cdc.gov/infectioncontrol/guidelines/environmental/index.html> (accessed: 11.03.2026).
8. Peng X., Xu X., Li Y. et al. Transmission routes of respiratory viruses in the dental clinic and prevention strategies. *International Journal of Oral Science*. 2020. Vol. 12. Article 9.
9. Cleveland J. L., Gray S. K., Harte J. A. et al. Transmission of blood-borne pathogens in US dental health care settings. *Journal of the American Dental Association*. 2021. Vol. 152(12). P. 1043–1054.
10. Zemouri C., de Soet H., Crielaard W., Laheij A. Bioaerosols in healthcare and dental environments: a scoping review. *PLoS ONE*. 2020. Vol. 15(5). e0233919.

Head of Department of Epidemiology

(signature)

Tatyana Chumachenko