

**MINISTRY OF HEALTH PROTECTION OF UKRAINE**

**ODESSA NATIONAL MEDICAL UNIVERSITY**

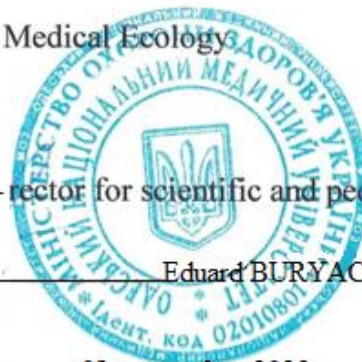
Department of Hygiene and Medical Ecology



Vice-rector for scientific and pedagogical work

Eduard BURYACHKIVSKY

01 september 2023



**APPROVE**

**WORKING PROGRAM OF EDUCATIONAL DISCIPLINE**

**«HOSPITAL HYGIENE AND DISEASE PREVENTION IN HEALTHCARE**

**INSTITUTIONS»**

**Level of higher education:** second (master's)

**Field of knowledge:** 22 «Health care»

**Specialty:** 222 «Medicine»

**Educational and professional program:** Medicine

2023

The work program is compiled on the basis of the educational and professional program «Medicine» for the training of specialists of the second (master's) level of higher education in the specialty 222 «Medicine» of the field of knowledge 22 «Health care», approved by the Scientific Council of ONMedU (protocol No. 8 of June 29, 2023).

Developers:

Professor Babienko V.V.

Senior teacher Sheikh Ali D.Kh.

Docent Kobolev E.V.

Docent Hanikina S.O.

Docent Horoshkov O.V.

Senior teacher Shanygin A.V.

Senior teacher Vatan M.M.

Assistant Rozhnova A.M.

The work program was approved at the meeting of the department of hygiene and medical ecology

Protocol No. 1 dated August 30, 2023.

Head of the department

Volodymyr BABIENKO

Agreed with the guarantor of the OPP

Valery MARICHEREDA

Approved by the subject cycle methodical commission for medical and biological disciplines of ONMedU

Protocol No. \_\_\_ of "\_\_\_" \_\_\_\_\_ 2023.

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

\_\_\_\_\_ Leonid GODLEVSKY

Reviewed and approved at a meeting of the department

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Protocol No. \_\_\_ of "\_\_\_" \_\_\_\_\_ 20\_\_

Head of Department \_\_\_\_\_

(signature) (First Name Surname)

Reviewed and approved at a meeting of the department

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Protocol No. \_\_\_ of "\_\_\_" \_\_\_\_\_ 20\_\_

Head of Department \_\_\_\_\_

(signature) (First Name Surname)

### 1. Description of the academic discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
The total number of: Credits: 3 Hours: 90 Content modules: 3	Branch of knowledge 22 "Health care"	<i>Full-time education</i>
		<i>Elective discipline</i>
		<i>Year of training: 6</i>
	Specialty 222 "Medicine"	<i>Semester XII</i>
		<i>Lectures (0 hours)</i>
		<i>Seminars (30 hours)</i>
	Level of higher education second (master's)	<i>Practical (0 hours)</i>
		<i>Laboratory (0 hours)</i>
		<i>Independent work (60 hours)</i>
		<i>including individual tasks (0 hours)</i>
		<i>The form of final control is credit</i>

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

**Purpose:** To acquaint students with higher education with the hygienic regulation of the design, construction and sanitary-technical equipment of hospital complexes and their internal planning,

ensuring optimal parameters of the microclimate, air environment and lighting, prevention of internal hospital infections.

**Task:**

1. To study the peculiarities of the planning and development of the plot, arrangement and internal planning of the refinery
2. Learn the list of measures to improve hygienic conditions in hospitals and polyclinics
3. Learn to minimize the risks of hospital infection
4. Master the methods of sanitary supervision and hygienic requirements for the operation of medical and preventive facilities

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

**General (ZK):**

- ZK1 - Ability to abstract thinking, analysis and synthesis.
- ZK2 - Ability to learn and master modern knowledge.
- ZK3 - Ability to apply knowledge in practical situations.
- ZK4 - Knowledge and understanding of the subject area and understanding of professional activity.
- ZK5 - Ability to adapt and act in a new situation.
- ZK6 - Ability to make informed decisions.
- ZK7 - Ability to work in a team.
- ZK8 - Interpersonal skills.
- ZK9 - Ability to communicate in the state language both orally and in writing.
- ZK10 - Ability to communicate in a foreign language.
- ZK11 - Skills of using information and communication technologies.
- ZK12 - Determination and persistence in relation to assigned tasks and assumed responsibilities.
- ZK13 - Ability to act socially responsibly and consciously.
- ZK14 - Striving to preserve the environment.

**Special (SK):**

- SK2 – Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
- SK 13 - Ability to carry out sanitary and hygienic and preventive measures.
- SK14- Ability to plan and carry out preventive and anti-epidemic measures regarding infectious diseases.

**Program Learning Outcomes (PLO):**

- PLO1 To have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
- PLO2 Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.
- PLO 3 Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
- PLO 19 Plan and implement a system of anti-epidemic and preventive measures regarding the

occurrence and spread of diseases among the population.

PLO 20 Analyze the epidemiological situation and carry out measures for mass and individual, general and local prevention of infectious diseases.

PLO 21 Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.

PLO 23 Assess the impact of the environment on the state of human health to assess the state of morbidity in the population.

PLO 24 To organize the necessary level of individual safety (own and the persons they care about) in case of typical dangerous situations in the individual field of activity.

PLO 25 Clearly and unambiguously communicate own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists.

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

**Know:** aspects of a safe hospital environment, as well as prevention and reduction of the level of risk, the number of accidents, morbidity and the extent of harm in health care facilities

**Be able:**

- Analyze: hygienic conditions and harmful factors affecting the effectiveness of treatment of patients and the health of medical workers.
- Explain: basic hygienic requirements for planning, equipment, regime, operation of medical, diagnostic, auxiliary and household units of the hospital environment.
- Classify: harmful and dangerous factors of various units of health care.
- Interpret: legislative and organizational measures to ensure the optimal regime, hygienic conditions for patients and occupational health and safety of medical workers.
- To analyze: hygienic standards of the microclimate, air environment, ventilation, natural and artificial lighting of various departments of the hospital, their significance in relation to the effectiveness of treatment of patients and working conditions of medical personnel.
- Compile: a sanitary survey and determine objective indicators of the hygienic condition of various units of health care facilities.

### **3. Content of the academic discipline**

#### **Content module 1.**

#### **HOSPITAL HYGIENE AND DISEASE PREVENTION IN HEALTH CARE INSTITUTIONS**

Topic 1. Hospital environment and its components. Basics of staff and patient safety. Topic 2. Healthcare system management methodology: identification, assessment and management of risks.

Topic 3. Peculiarities of patients' stay and working conditions of staff in the main departments of health care facilities.

Topic 4. Methodology of physiological and hygienic assessment of the doctor's profession.

Topic 5 Ergonomic requirements for the workplace of medical personnel.

Topic 6. Methods of identifying chronic fatigue and professional burnout of medical workers.

Topic 7 Ways of maintaining working capacity.

Topic 8. Methodology for developing rational modes of work and rest.

Topic 9. Methods of assessing the health of a healthy person.

Topic 10. Tasks and methods of implementation of infection control as a component of the safety of the hospital environment.

Topic 11. Measures and means to prevent infection of staff and patients with the most common infectious diseases.

Topic 12. Rules for handling medical waste in health care facilities.

Topic 13. Prevention of harmful and dangerous effects of hospital environment factors on the body of patients and medical workers.

Topic 14 Prevention of occupational diseases among workers in the field of diagnostic medicine.

Topic 15 Credit lesson.

#### 4. The structure of the academic discipline

Name of the topic	Number of hours					
	In total	including				
		seminars	seminars	practical	laboratory	SRS
<b>Content module 1.</b>						
<b>HOSPITAL HYGIENE AND DISEASE PREVENTION IN HEALTH CARE INSTITUTIONS</b>						
Topic 1. Hospital environment and its components. Basics of staff and patient safety.	6		2			4
Topic 2. Healthcare system management methodology: identification, assessment and management of risks.	6		2			4
Topic 3. Peculiarities of patients' stay and working conditions of staff in the main departments of health care facilities.	6		2			4
Topic 4. Methodology of physiological and hygienic assessment of the doctor's profession.	6		2			4
Topic 5 Ergonomic requirements for the workplace of medical personnel.	6		2			4
Topic 6. Methods of identifying chronic fatigue and professional burnout of medical workers.	6		2			4
Topic 7 Ways of maintaining working capacity.	6		2			4
Topic 8. Methodology for developing rational modes of work and rest.	6		2			4
Topic 9. Methods of assessing the health of a healthy person.	6		2			4

Topic 10. Tasks and methods of implementation of infection control as a component of the safety of the hospital environment.	6		2			4
Topic 11. Measures and means to prevent infection of staff and patients with the most common infectious diseases.	6		2			4
Topic 12. Rules for handling medical waste in health care facilities.	6		2			4
Topic 13. Prevention of harmful and dangerous effects of hospital environment factors on the body of patients and medical workers.	6		2			4
Topic 14 Prevention of occupational diseases among workers in the field of diagnostic medicine.	6		2			4
Topic 15 Credit lesson	6		2			4
Individual tasks						
<b>In total</b>	<b>90</b>		<b>30</b>			<b>60</b>

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

#### 5.1 Topics of lectures

are not provided.

#### 5.2. Topics of practical classes

are not provided.

#### 5.3. Topics of seminar classes

№	Topic	Number of hours
1	Hospital environment and its components. Basics of staff and patient safety.	2
2	Healthcare system management methodology: identification, assessment and management of risks.	2
3	Peculiarities of the stay of patients and working conditions of staff in the main departments of health care facilities.	2
4	Methodology of physiological and hygienic assessment of the doctor's profession.	2
5	Ergonomic requirements for the workplace of medical personnel.	2

6	Methods of detecting chronic fatigue and professional burnout of medical workers.	2
7	Ways of maintaining working capacity.	2
8	Methodology for the development of rational modes of work and rest.	2
9	Methods of assessing the health of a healthy person.	2
10	Tasks and methods of implementation of infection control as a component of the safety of the hospital environment.	2
11	Measures and means to prevent infection of staff and patients with the most common infectious diseases.	2
12	Rules for handling medical waste in health care facilities.	2
13	Prevention of harmful and dangerous effects of factors of the hospital environment on the body of patients and medical workers.	2
14	Prevention of occupational diseases among workers in the field of diagnostic medicine.	2
15	Credit class	2
	<b>In total</b>	<b>30</b>

#### 5.4. Topics of laboratory classes

Laboratory classes are not provided.

#### 6. Independent work of a student of higher education

№	Name of the topic / types of tasks	Number of hours
1.	Topic 1. Preparation for practical classes 1	4
2.	Topic 2. Preparation for practical classes 2	4
3.	Topic 3. Preparation for practical classes 3	4
4.	Topic 4. Preparation for practical classes 4	4
5.	Topic 5. Preparation for practical classes 5	4
6.	Topic 6. Preparation for practical classes 6	4
7.	Topic 7. Preparation for practical classes 7	4
8.	Topic 8. Preparation for practical classes 8	4
9.	Topic 9. Preparation for practical classes 9	4
10.	Topic 10. Preparation for practical classes 10	4
11.	Topic 11. Preparation for practical classes 11	4
12.	Topic 12. Preparation for practical classes 12	4
13.	Topic 13. Preparation for practical classes 13	4
14.	Topic 14. Preparation for practical classes 14	4
15.	Topic 15. Preparation for credit lesson 15	4
	<b>In total</b>	<b>60</b>

#### 7. Teaching methods

**Practical classes:** conversation, solving situational problems, practicing skills, filling out protocols on the subject of classes, performing laboratory studies.

**Independent work:** independent work with recommended basic and additional literature, with electronic information resources.

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



**Current control:** oral survey, assessment of performance of practical skills, assessment of performance of work with devices, solution of situational tasks, assessment of activity in class.

**Final control:** credit.

**Evaluation of the current educational activity in a practical session:**

1. Evaluation of theoretical knowledge on the subject of the lesson:
  - methods: survey, solving a situational problem
  - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
2. Assessment of practical skills on the topic of the lesson:
  - methods: assessment of the correctness of the performance of practical skills
  - maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The grade for one practical lesson is the arithmetic average of all components and can only have an integer value (5, 4, 3, 2), which is rounded according to the statistical method.

**Current evaluation criteria in practical training**

Evaluation	Evaluation criteria
«5»	The student is fluent in the material, takes an active part in discussing and solving the situational problem, confidently demonstrates practical skills, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
«4»	The student has a good command of the material, participates in the discussion and solution of the situational problem, demonstrates practical skills with some errors, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
«3»	The applicant does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational problem, demonstrates practical skills with significant errors.
«2»	The applicant does not possess the material, does not participate in the discussion and solution of the situational problem, does not demonstrate practical skills.

Credit is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Assessment is carried out: at the last lesson before the beginning of the examination session - with the tape system of learning, at the last lesson - with the cyclical system of learning. The credit score is the arithmetic mean of all components according to the traditional four-point scale and has a value that is rounded according to the statistics method with two decimal places after the decimal point.

**9. Distribution of points received by students of higher education**

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

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

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

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

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

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

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

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

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

### 10. Methodological support

- Working program of the academic discipline
- Syllabus
- Methodical developments for practical classes
- Methodical recommendations for independent work of higher education applicants
- Multimedia presentations
- Situational tasks.

### 11. Questions for preparing for the final inspection

1. Prevention of hospitalization, in particular and especially - infectious;
2. Hygienic examination of projects of construction, reconstruction, modernization of health care facilities, new equipment, devices, means of protection, methods and techniques of treatment, diagnosis and prevention, inventory, etc.;
3. Participation in the licensing of medical organizations based on the criterion of their sanitary and epidemiological well-being;
4. Creation of comfortable (corresponding to hygienic regulations) hygienic and psychological conditions for patients and staff at the hospital;
5. Control over the organization of medical, dietary, medical and preventive nutrition together with the dietetic service;
6. Ensuring optimal hygienic working and rest conditions for personnel;
7. Organization of hygienic support of medical care of the population in medical and preventive organizations of various types;
8. Training and advanced training of personnel in the field of hospital hygiene;
9. Hygienic upbringing and education of the population (potential patients) and patients of the hospital.
10. List the main arguments for the need for hygienic knowledge in the activities of a medical specialist.
11. Explain what is the deontological content of applying the principles of prevention in the activities of a medical specialist.
12. What is the importance of knowledge of the basics of preventive medicine in the implementation of diagnostic and therapeutic measures?
13. What is the importance of knowledge of the basics of preventive medicine in maintaining the health of hospital staff?
14. Define hospital (hospital) hygiene and comment on them.
15. What is the purpose of hospital hygiene?
16. What are the main tasks of hospital hygiene?
17. Name the main problems of hospital hygiene in modern conditions.
18. Give an argument for the justification of the need to provide hospital hygiene with an independent division of hygiene.
19. Instructive and methodical documentation reflecting the issue of disinfection in medical facilities. Disinfection of high risk.
20. « Modern disinfectants used in the refinery.
21. "Sanitary-epidemic regime and regulatory documents reflecting the issue of disinfection of medical facilities."
- 22 "Device, organization of work, documentation of CGG".
24. "New technologies in the prevention of VLI".
23. Sterilization, pre-sterilization cleaning. Organization of the CSO.
24. Means methods, sterilization modes. Laying sterilization boxes, rules for working with them. Types of sterilization boxes, packaging material. Terms of sterility.
25. Safety of medical personnel. Personnel events in an emergency situation.
26. Prevention of nosocomial infections among medical personnel during invasive procedures. Actions in case of threat of infection. Safety rules at the workplace.
27. Peculiarities of the work of medical personnel with HIV-infected and AIDS patients.
28. HIV infection: definition, etiology, epidemiology, epidemic situation in Ukraine and the world, prevention methods.

## **12. Recommended literature**

### **Main:**

1. Hygiene propaedeutics; textbook: in 2 vols. T1/ V.V., Babienko, A.V. Mokiienko - Odesa:

Press-courier, 2022. 400p.

2. Hygiene propaedeutics; textbook: in 2 volumes T2/ V.V. Babienko, A.V. Mokiienko - Odesa: Press-courier, 2022. 400p.

3. Water hygiene and water supply of populated areas: a study guide/ Babienko V.V., Mokiienko A.V. – Odesa: Press Courier, 2021, 327 p.

**Additional:**

1. Pharmaceutical hygiene.: study guide/ V.V. Babienko, A.V. Mokiienko, O.A. Gruzevskiy - Odesa: Press-courier, 2022. 324 p.

2. "Hygiene in the practice of a dentist"; educational and methodological manual/ Babienko V.V., Mokiienko A.V., Kobolev E.V./ Odesa: Press-courier. 2022 180 p.

**13. Electronic information resources**

1. <http://moz.gov.ua> – Ministry of Health of Ukraine

2. [www.ama-assn.org](http://www.ama-assn.org) - American Medical Association / AmericanMedicalAssociation

3. [www.who.int](http://www.who.int) - World Health Organization

4. [www.dec.gov.ua/mtd/home/](http://www.dec.gov.ua/mtd/home/) - State Expert Center of the Ministry of Health of Ukraine

5. <http://bma.org.uk> - British Medical Association

6. [www.gmc-uk.org](http://www.gmc-uk.org) - General Medical Council (GMC)

7. [www.bundesaerztekammer.de](http://www.bundesaerztekammer.de) – German Medical Association.