BOGOMOLETS NATIONAL MEDICAL UNIVERSITY
Educational and Scientific Institute of Public Health and preventive medicine
Department of Hygiene, Environmental and Occupational Health

APPROVE
Vice-rector of a higher education institution
Bogomolets National Medical University for scientific and pedagogical work and educational work,
Doctor of Medical Sciences,
Professor Oleg VLASENKO

SUBJECT CURRICULUM

"OCCUPATIONAL SAFETY IN THE INDUSTRY"

Educational level	second (master's)
Area of knowledge	I "Health care and social security"
Specialty	I2 "Medicine"
Educational program	"Medicine"

2026-2027 academic year

UB
НМУ імені О.О.Богомольця
№624/л-1 від 09.09.2026
Власенко О.М. (Проректор з науково-педагогічної та навчальної роботи) 09.09.2026 10:33

The Subject curriculum of the academic discipline "Occupational Safety in the Industry" for students with a master's degree, 1st year of the Educational and Scientific Institute of Medicine, specialty I2 "Medicine".

Program developers:

Zinchenko T.O.,Candidate of Medical Sciences, Associate Professor of the Department of Hygiene, Environmental and Occupational Health, NMU;

Riabovol V.M., PhD, Assistant at the Department of Hygiene, Environmental and Occupational Health, NMU;

Ustiak N.V., Candidate of History, Assistant at the Department of Hygiene, Environmental and Occupational Health, NMU.

The subject curriculum was discussed and approved at meeting Department of Hygiene,environmental and occupational health

Protocol No. 1 of "28" August 2026

The subject curriculum was discussed and approved at a meeting of the cyclical methodological commission on hygienic disciplines

Protocol No. 1 dated "31" August 2026

Head of the Department of Hygiene,
environmental and occupational health,
Academician of the National Academy
of Sciences of Ukraine,
Professor O.P. Yavorovsky

Head of the Cyclic Methodological Commission
of hygienic disciplines, Doctor of Medical Sciences, Professor V.G. Bardov

Guarantor of the educational (educational and professional) program
doctor of medicine, Professor V. S. Melnyk

Head of the Department of Educational and Methodological Work,
licensing and accreditation, PhD, Associate Professor I.I. Kucherenko

1. DESCRIPTION OF THE ACADEMIC DISCIPLINE

EDUCATIONAL COMPONENT 15 "Occupational safety in the industry"

<table>
<tr><th rowspan="2">Name of indicators</th><th rowspan="2">Field of knowledge, direction of training, educational and qualification level</th><th colspan="2">Characteristics of the academic discipline</th></tr>
<tr><td>full-time education</td><td>correspondence form of study</td></tr>
<tr><td rowspan="2">Number of credits – 2</td><td>Discipline:
I Health care and social security</td><td rowspan="2">Regulatory</td><td rowspan="2">–</td></tr>
<tr><td>Area of training:
Master</td></tr>
<tr><td>Modules – 1</td><td rowspan="4">Specialty:
I2 Medicine</td><td>Year of preparation – 1st</td><td>–</td></tr>
<tr><td>Content modules – 3</td><td rowspan="2">Semester – 1st or 2nd</td><td rowspan="2">–</td></tr>
<tr><td>Individual research task:
INDRS</td></tr>
<tr><td>Total number of credits/hours – 2/60</td><td>Lectures</td><td>–</td></tr>
<tr><td rowspan="5">Weekly hours for full-time study:
classrooms – 2;
student's independent work – 3</td><td rowspan="5">Educational and qualification level:
Master of Medicine</td><td>2 hours;</td><td>–</td></tr>
<tr><td rowspan="2">Practical: 28 hours.</td><td>–</td></tr>
<tr><td>–</td></tr>
<tr><td>Independent work: 30 hours.</td><td>–</td></tr>
<tr><td>Type of control: Differential credit</td><td>–</td></tr>
</table>

2. Purpose, expected learning outcomes and assessment criteria

The purpose of teaching the academic discipline "Occupational Safety in the Industry" is to form in future specialists the knowledge, skills and competencies to ensure effective management of occupational safety in the medical industry and create favorable conditions for the production environment and occupational safety in the industry in accordance with current legislative and other regulatory legal acts.

The program competencies according to the educational and professional program of the specialty I3 "Pediatrics", the formation of which is ensured during the teaching of the discipline "Occupational Safety in the Industry" include (OK 15: GC 1,2,5-9,11,12; SK 23,24; PLO3):

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

general competencies (GC):

GC1. The ability for abstract thinking, analysis and synthesis.

GC 2. The ability to learn and master modern knowledge.

GC 3. Ability to apply knowledge in practical situations.

GC 4. Knowledge and understanding of the subject area and understanding of professional activity.

GC 5. The ability to adapt and act in a new situation.

GC 6. Ability to make informed decisions.

GC 7 Ability to work in a team.

GC 8. Ability for interpersonal interaction.

GC 10. Ability to use information and communication technologies.

GC 11. Ability to search, process and analyze information from various sources.

GC 12. Determination and persistence in the tasks set and responsibilities undertaken.

GC 13. Awareness of equal opportunities and gender issues.

GC 16. The ability to make decisions and act in accordance with the principle of non-acceptance of corruption and any other manifestations of dishonesty.

special (professional, subject) competencies (FC):

FC 4. The ability to determine the necessary work and rest regime when treating diseases.

FC 5. Ability to determine the nature of nutrition in the treatment and prevention of disease

FC 13. Ability to carry out sanitary, hygienic and preventive measures.

FC 15. Ability to conduct a work capacity assessment.

FC 16. Ability to maintain medical records, including electronic forms.

FC 17. The ability to assess the impact of the environment, socio-economic and biological determinants on the health of an individual, family, and population.

FC 25. Adherence to professional and academic integrity, taking responsibility for the reliability of the scientific results obtained

program learning outcomes (PLO):

PLO 1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. Be responsible for professional development, the ability to further professional learning with a high level of autonomy.

PLO 3. Specialized conceptual knowledge that 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 17. Perform medical manipulations (according to list 5) in a medical institution, at home or at work based on a preliminary clinical diagnosis and/or indicators of the patient's condition by making an informed decision, adhering to relevant ethical and legal norms.

PLO 27 Manage workflows in the healthcare sector that are complex, unpredictable. Communicate fluently in the state language and English, both orally and in writing, to discuss professional activities, research, and projects.

PLO 28. Make effective decisions on health care issues, assess the resources needed, and consider social, economic, and ethical implications.

PLO 29. Plan, organize and conduct activities for the specific prevention of infectious diseases, including in accordance with the National Calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues, organize additional vaccination campaigns, including immunoprophylaxis activities.

Integrative final program learning outcomes, the formation of which is facilitated by the academic discipline:

● Conduct professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health.

● Apply knowledge of general and specialized disciplines in professional activities.

● Comply with sanitary and hygienic standards and safety requirements when performing professional activities.

● Use the results of independent search, analysis and synthesis of information from various sources to solve typical professional tasks

● To justify decisions made and to be responsible for them in standard and non-standard professional situations; to adhere to the principles of deontology and ethics in professional activities.

● To communicate professionally in modern Ukrainian literary language, to use oral communication skills in a foreign language, to analyze professional texts and to translate foreign-language information sources.

● Adhere to communication norms in professional interaction with colleagues and management, and work effectively in a team.

● Analyze information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

Criteria for assessing learning outcomes

Control of knowledge of higher education students at the National Medical University named after O.O. Bogomolets is achieved through systematic approaches to assessment and the comprehensive application of various types of control (initial, current, final).

Assessment of learning outcomes in a practical sessionis carried out at each practical lesson in accordance with specific goals for each topic, provides for 100% surveying of students in the group, and evaluation of all components of the lesson -

test control, solving situational tasks, written completion of tasks in the process of preparing for the practical lesson.

For each stage of the lesson, the student receives a traditional grade of "5-4-3-2" points, from which the teacher determines the arithmetic average grade and presents it in the form of a traditional grade, rounding 1-4 after the decimal point down according to mathematical rules, 5-9 - up.

Rating "5"is given when the student gives comprehensive, accurate and clear answers without any additional questions; answers the material without errors and inaccuracies; performs the proposed situational tasks without errors and under different conditions, correct answers in tests - 90% -100%.

Rating "4"is set on the condition that the student knows the content of the lesson and understands it well, answers the questions correctly, consistently and systematically, but they are not exhaustive, although the student answers additional questions without errors; performs the proposed situational tasks under standard conditions, makes mistakes when changes occur in the situation but can correct themselves when additional questions are asked, correct answers in tests - 75%-89%.

Rating "3"is set to the student based on his knowledge of the main content of the lesson and at a satisfactory level of his understanding, gives answers using leading questions, but answers directly posed questions correctly. cannot fully complete situational tasks, but with the presence of corrective actions from the teacher, successfully overcomes practical tasks, correct answers in tests - not less than 60%-74%

Rating "2"is issued in cases where the student's knowledge does not meet the requirements for the "3 points" assessment; in the test control, the correct answers are 59% or less.

Assessment of learning outcomes in a seminar classis carried out at each seminar session in accordance with specific goals for each topic, provides for students' thesis reports on problems previously identified by the teacher, and evaluation of other components of the session - test control, solving situational tasks, written completion of tasks in the process of preparing for the seminar session.

Rating "5"is awarded in the case of a meaningful performance by the student, provided that he is highly active during the discussion. The student demonstrates the ability to substantiate his own judgments, uses theoretical knowledge to solve simulated situations, uses available visual aids, skillfully presents the results of independent creative work, and the correct answers in the tests are 90% -100%.

Rating "4"is given on the condition that the student knows the content of his report and understands it well, answers the questions correctly, consistently and systematically, but not exhaustively, although the student answers additional questions without errors; performs the proposed situational tasks under standard conditions, makes mistakes when changes occur in the situation but can correct himself when additional questions are asked, correct answers in tests - 75%-89%.

Rating "3"is set for the student based on a satisfactory level of his understanding of the task, gives answers using leading questions, but answers directly posed questions correctly. cannot fully complete situational tasks, but with the presence of corrective actions from the teacher, successfully overcomes practical tasks, correct answers in tests - not less than 60%-74%

Rating "2"is issued in cases where the student's knowledge does not meet the requirements for the "3 points" assessment; in the test control, the correct answers are 59% or less.

Individual work:

Rating "5"is awarded when the student has created and reported an individual work on the chosen topic in accordance with the requirements of academic integrity and was able to answer the questions posed to him in detail.

Rating "4"is issued in the case when a student created and reported individual work in accordance with the requirements of academic integrity, did not fully detail the chosen topic, and was not able to fully answer the questions posed to him.

Rating "3"is issued in the case when a student created and reported an individual work in accordance with the requirements of academic integrity, did not fully detail the chosen topic and was unable to answer the questions asked of him.

Rating "2"is issued when a student has created and reported individual work that does not meet the requirements of academic integrity, or has not disclosed the chosen topic.

Such work is not counted, or it is suggested to create another individual work that meets the criteria for a grade of "3".

The student has the right to improve his knowledge and skills on the topic for which he received an overall grade of "2" and, accordingly, 0 points, during the next academic session, during the current control in accordance with the department's regulations without receiving points.

The sum of points accumulated by the student as a result of current studies is a component of the overall grade in the discipline according to the types of final knowledge control.

Matrix of correspondence of the competencies defined by the Standard to the NQF descriptors

	IR	GC 1.3	GC 10-13,16	FC 4,5,13,15-17	FC 25	PLO 1,3,17,27,28,29
EC 15	+	+	+	+	+	+

Matrix of correspondence between learning outcomes and competencies defined by the Standard
Matrix of correspondence of the competencies defined by the Standard to the NQF descriptors.

Classification of competencies according to the NQF	**Knowledge** **Zn1**Specialized conceptual knowledge that incorporates current scientific findings in a professional field or area of knowledge and is the basis for original thinking and research **Zn2**Critically reflecting on issues within the field and at the interface of fields of knowledge	**Skills/Abilities** **Um1**Specialized skills/ problem-solving skills necessary to conduct research and/or implement innovative activities to develop new knowledge and procedures **Um2**Ability to integrate knowledge and solve complex problems in broad or multi-disciplinary contexts **Um3**Ability to solve problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility	**Communication** **K1**Clear and unambiguous communication of one's own knowledge, conclusions and arguments to specialists and non-specialists, in particular to students **K2**Using foreign languages in professional activities	**Responsibility and autonomy** **AB1**Managing work or learning processes that are complex, unpredictable, and require new strategic approaches **AB2**Responsibility for contributing to professional knowledge and practice and/or evaluating the performance of teams and collectives AB3 Ability to continue learning with a high degree of autonomy
1	*2*	*3*	*4*	*5*
General competencies				
GC1. Ability for abstract thinking, analysis and synthesis.	**Zn1**	**Um1**	**K1**	**AB1**
GC 2. Ability to learn and master modern knowledge.	**Zn1**	**Mind 3**	**K2**	**AB3**
GC 3. Ability to apply knowledge in practical situations.	**Zn1**	**Um2**	**K1**	**AB1**

Classification of competencies according to the NQF	**Knowledge** **Zn1**Specialized conceptual knowledge that incorporates current scientific findings in a professional field or area of knowledge and is the basis for original thinking and research **Zn2**Critically reflecting on issues within the field and at the interface of fields of knowledge	**Skills/Abilities** **Um1**Specialized skills/ problem-solving skills necessary to conduct research and/or implement innovative activities to develop new knowledge and procedures **Um2**Ability to integrate knowledge and solve complex problems in broad or multi-disciplinary contexts **Um3**Ability to solve problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility	**Communication** **K1**Clear and unambiguous communication of one's own knowledge, conclusions and arguments to specialists and non-specialists, in particular to students **K2**Using foreign languages in professional activities	**Responsibility and autonomy** **AB1**Managing work or learning processes that are complex, unpredictable, and require new strategic approaches **AB2**Responsibility for contributing to professional knowledge and practice and/or evaluating the performance of teams and collectives AB3 Ability to continue learning with a high degree of autonomy
GC 4. Knowledge and understanding of the subject area and understanding of professional activity.	**Zn2**	**Um2**	**K2**	**AB2**
GC 5. Ability to adapt and act in a new situation.	**-**	**Um3**	**-**	**AB2**
GC 6. Ability to make informed decisions.	**Zn1**	**Um3**	**K1**	**AB1**
GC 7. Ability to work in a team.	**Zn2**	**Um3**	**K1**	**AB2**
GC 8. Ability for interpersonal interaction.	**Zn1**	**Um3**	**K1**	**AB2**
GC 10. Ability to use information and communication technologies.	**Zn2**	**Um3**	**K2**	**AB3**
GC 11. Ability to search, process and	**Zn2**	**Um2**	**K2**	**AB2**

analyze information from various sources.				
GC 12. Determination and persistence in achieving assigned tasks and assumed responsibilities.	**Zn2**	**Um3**	**-**	**AB3**
GC 13. Awareness of equal opportunities and gender issues.	**Zn2**	**Um1**	**K1**	**AB1**
1	*2*	*3*	*4*	*5*
Special (professional) competencies				
FC 4. Ability to determine the necessary work and rest regime in the treatment and prevention of diseases.	**Zn2**	**Um2**	**K1**	**AB1**
FC 5. Ability to determine the nature of nutrition in the treatment and prevention of diseases.	**Zn2**	**Um1**	**K1**	**AB1**
FC 14. Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.	**Zn2**	**Um3**	**K1**	**AB2**
FC 15. Ability to conduct a work capacity examination.	**Zn2**	**Um1**	**K1**	**AB1**
FC 16. Ability to maintain medical records, including electronic forms.	**Zn2**	**Um1**	**K1**	**AB1**
FC 17. Ability to assess the impact of the environment, socio-	**Zn2**	**Um3**	**K1**	**AB1**

economic and biological determinants on the health of an individual, family, and population.				
FC 25. Adherence to professional and academic integrity, responsibility for the reliability of the obtained scientific results.	**Zn2**	**Um2**	**K2**	**AB3**

Matrix of correspondence between learning outcomes and competencies defined by the Standard

PRN*	General competencies															Professional competencies																							
	GC1	GC2	GC3	GC4	GC5	GC6	GC7	GC8	GC9	GC10	GC11	GC12	GC13	GC14	GC15	FC1	FC2	FC3	FC4	FC5	FC6	FC7	FC8	FC9	FC10	FC11	FC12	FC13	FC14	FC15	FC16	FC17	FC18	FC19	FC20	FC21	FC22	FC23	FC24	FC25
PRN1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PRN3	+	+	+			+	+		+	+	+	+	+	+	+	+	+	+								+						+	+	+	+	+	+	+	+
PRN17														+	+							+				+						+							
PRN26		+						+																															
PRN27					+	+	+	+							+											+							+			+	+			
PRN28												+			+																		+	+			+			
PRN29														+	+													+	+						+					

*Program learning outcomes

3. STRUCTURE OF THE ACADEMIC DISCIPLINE

ECTS CREDIT – 2, TOTAL HOURS – 60, LECTURES – 2, PRACTICALS – 28, IWS – 30

Module and topic names	Number of hours				
	day uniform				
	total	including			
		Lectures (hours)	Practical (hours)	Seminars (hours)	IWS. (hours)
1	2	3	4	5	7
Content module 1. General issues of occupational safety					
Topic 1. Legal basis of labor protection	5	1	2	-	2
Topic 2. Organization of occupational safety in medical institutions and institutions of higher medical education.	4	-	2	-	2
Topic 3. Occupational hygiene and physiology, importance for creating safe working conditions	5	1	2	-	2
Together according to content module 1.	14	2	6	-	6
Content module 2. Peculiarities of working conditions in the medical industry					
Topic 4. Occupational hazards in the performance of functional duties of medical workers	4	-	2	-	2
Topic 5. Hygienic classification of working conditions and assessment of the health status of medical workers	4	-	2	-	2
Topic 6. Accidents and incidents in healthcare facilities, their investigation and recording	4	-	2	-	2
Together by content module 2	12	-	6	-	6
Content module 3. Special issues of occupational safety in the medical industry					

Topic 7. Prevention of harmful and dangerous effects of production environment factors on the body of medical workers	4	-	2	-	2
Topic 8. Occupational safety in individual structural units of health care institutions and institutions of higher medical education	4	-	2	-	2
Topic 9. Dangerous infectious diseases in the work of medical workers	4	-	2	-	2
Topic 10. Fire and electrical safety in medical institutions	4	-	2	-	2
Topic 11. Occupational safety of women, adolescents and older people in healthcare facilities.	4	-	2	-	2
Topic 12. Prevention of occupational injuries in healthcare facilities	4	-	2	-	2
Topic 13. Methodology for organizing and conducting preliminary and periodic medical examinations of healthcare workers	4	-	2	-	2
Topic 14. Test work	4	-	2	-	2
Together by content module 3	32		16	-	16
INDS	2	-	-	-	2
Total hours	60	2	28	-	30

Classroom load – 50%; IWS – 50%.

4.Lecture topics

No.	Lecture topic	Number of hours
Content module 1. General issues of occupational safety		
1.	Occupational safety in the medical industry. Subject, objectives, research methods. Legal support for occupational safety in Ukraine	1
2.	Physiological changes in the human body during physical and mental work. Indicators of the severity and intensity of the labor process. Ways to increase the efficiency of medical workers.	1
	Total	***2***

5. Topics of practical classes

No.	Topic	Number of hours
Content module 1. General issues of occupational safety		
1.	Legal basis of labor protection	2
2.	Organization of occupational safety in medical institutions and institutions of higher medical education.	2
3.	Occupational hygiene and physiology, importance for creating safe working conditions	2
Content module 2. Peculiarities of working conditions in the medical industry		
4.	Occupational hazards in the performance of functional duties of medical workers	2
5.	Hygienic classification of working conditions and assessment of the health status of medical workers	2
6.	Accidents and incidents in healthcare facilities, their investigation and recording	2
Content module 3. Special issues of occupational safety in the medical industry		
7.	Prevention of harmful and dangerous effects of production environment factors on the body of medical workers	2
8.	Occupational safety in individual structural units of health care institutions and institutions of higher medical education	2
9.	Dangerous infectious diseases in the work of medical workers	2
10.	Fire and electrical safety in medical facilities	2
11.	Occupational safety of women, adolescents and older people in healthcare facilities.	2
12.	Prevention of occupational injuries in healthcare facilities	2
13.	Methodology for organizing and conducting preliminary and periodic medical examinations of healthcare workers	2
14.	Test work	2

	Total	***28***

7. According to the curriculum, laboratory work is not provided.

8. Independent work

The main types of independent work of students are:

– Pre-audit preparation for practical classes

– Completing tasks from the workbook

– Performing individual work

No.	Topic	Number of hours
Content module 1. General issues of occupational safety		
1.	Preparation for practical classes.	10
Content module 2. Peculiarities of working conditions in the medical industry		
1.	Preparation for practical classes.	10
Content module 3. Special issues of occupational safety in the medical industry		
1.	Preparation for practical classes.	10
	Total	30

9. Individual tasks:

Optional individual workcan be written by the student at will, once to increase the overall score for the discipline, at the expense of the current one, but not more than up to

maximum 200. The student receives points depending on the type of individual work.

- Literature review report on a specific topic - 6-4-2-0 points

- Report on the results of your own research – 8-6-4-0 points

- Participation in the discipline Olympiad - 8 points, prize place - 10 points.

Indicative list of individual tasks:

1. Literature review report on a specific topic: (Working with literature and other sources of information and preparing an abstract report with a presentation at a practical session in compliance with the rules of academic integrity).

2. Report on the results of your own research: (Working with the results of a survey, questionnaire, research on working conditions of medical workers).

3. Participation in the discipline Olympiad.

10. METHODS AND TYPES OF TEACHING

Methods:

I. Methods of organizing and implementing educational and cognitive activities.

• By source of information: a) verbal: explanation, story, conversation; b) visual: observation, illustration, demonstration; c) situational tasks.

• According to the logic of transmitting and perceiving educational information: inductive, deductive, analytical, synthetic;

• By the degree of independence of thinking: reproductive, exploratory, research;

• By the degree of management of educational activities: under the guidance of a teacher; independent work of students: with a book and Internet resources; implementation of individual educational projects.

II. Methods of stimulating interest in learning and motivating educational and cognitive activity: educational discussions; interactive teaching methods, creating situations of cognitive novelty and interest.

III. Control methods as teaching methods (control by the teacher, self-control, mutual control, self-correction, mutual correction);

IV. Distance learning methods using modern educational platforms and educational resources (Likar, Zoom, Viber, etc.).

V. Practical teaching methods: surveys, situational tasks.

Forms of training:

- oral discussion of the topic with the involvement of the majority of students in the group; discussions on problem situations;
- abstract presentations;
- written testing;
- blitz poll;
- completing written assignments
- work in small groups in a practical session;

- solving situational problems and cases;
- modeling of situations of varying complexity;
- discussions (open and guided);
- competitive group method;
- training technology method;
- partially – search method (searching and studying information in electronic, printed, and video materials on the topics of classes);
- a research method that consists of analyzing various contemporary data on a specific topic and culminating in individual work.

Typesstudent's educational activities, according to the curriculum:

- lectures;
- practical classes;
- seminar class;
- independent work of students.

11. METHODS AND FORMS OF CONTROL

Control methods:

a) format A test tasks

b) solving typical and non-standard situational problems

c) individual survey on theoretical questions before the lesson

d) test computer control Likar

Forms of control:

Output control provides for the determination of the initial level of students in related disciplines, which is necessary for mastering the discipline that the student is studying. The results of the initial knowledge control are not taken into account in the student's current education, since they are only of an introductory nature for the teacher.

Current controlprovides for 100% student surveying during a practical session with evaluation of all components of the session – test control, oral interview, and solving situational problems.Proof of the student's work during the

class is a protocol, which is checked and signed by the teacher after each practical session.

At each seminar session, the teacher organizes a discussion on previously defined problems. Based on individual assignments (abstracts), students prepare abstracts for presentations on these problems. The teacher evaluates:

– correspondence of the content of the student's speech to the content of the issues discussed at the seminar;

– student activity in the seminar;

– ability to lead a discussion;

– the validity of one’s own judgments;

– references to primary sources during discussions (speech);

– ability to use theoretical knowledge to solve complex problems, practical tasks, etc.;

– ability to use available visual aids;

– ability to present the results of independent creative work;

Students' knowledge of the seminar topic is tested through testing and writing independent papers, etc.

Lecture material is checked during the ongoing control. Additional points may be awarded for active participation in the interactive lecture.

At the last practical lesson, a test is conducted (in the form of a test control, for which the student receives a traditional grade. The test is not retaken.

Assessment of independent work:

Assessment of students' independent work, which is provided for in the topic along with classroom work, is carried out during the current control of the topic at the corresponding classroom lesson. At the beginning of the lesson, the student demonstrates his protocol notebook, in which the solution of the task for self-control from the workbook for independent work of students is indicated.

Assessment of topics that are assigned only for independent work and are not included in the topic of classroom training sessions are assessed in the credit session and are included in the list of test tasks for the control work.

Assessment of an individual educational and research task:

The number of points for completing an individual educational and research task, which is optional, depends on its scope and significance. These points are added to the total points earned by the student for the current educational activity (the detailed distribution of points is specified in paragraphs 2.3 and 4.5).

The head of the department constantly monitors the current study of students in the discipline, paying special attention to students at risk (a significant number of "NB", unsatisfactory grades). At methodological meetings of the department, discuss the results of current study and student attendance. For students at risk, if desired, in advance, before the deadline for final control or after the last, the opportunity to provide in-depth study, in accordance with the procedure for providing educational services at the University.

12. PROCEDURE (ALGORITHM) FOR MASTERING (PROCESSING) THE MATERIAL OF TOPICS MISSED IN-CLASS TRAINING CLASSES

The basis of the order (algorithm) of mastering the material of topics missed in classroom training sessions is the requirement for students to fully process the training material to form the necessary knowledge and skills in the process of studying the discipline and to increase the requirement for mandatory attendance at classes.

To acquire the ability to continue training, the following is provided:

1) The student is obliged to study the full scope of the educational material of the discipline;

2) The student must attend at least 75 percent of the classroom hours while studying the subject, which makes it impossible to deduct for absences;

3) If a student has missed up to 25 percent of classroom hours, the material on the missed topics must be worked out independently by him/her;

4) Independent mastering of missed topics occurs by studying the lesson material in accordance with the departmental methodological development of the topic, to which students have access on the department's website and on the

"LIKAR-NMU" platform.

5) The student works on the theoretical component by writing a topic outline, the practical component of the topic - by solving problems on the topic;

6) Educational material that was missed by a student for any reason, including illness, provided that up to 25 percent of classroom time, is mastered by him independently during studies at the department in extracurricular time according to the department's regulations in compliance with the methodological development of the educational topic, including by writing a summary of the educational topic, distance learning, consultation, etc. The student demonstrates the summary of the missed topic to the group teacher during the next academic session or after the start of attending educational sessions (within the academic time), and the group teacher, upon the fact of the availability of the summary, makes a mark in the form of the letter "K" in the journal of attendance and student performance in the column of the missed topic, without assigning a grade. The presence of a summary of the missed lesson is confirmation of the student's fulfillment of the educational program.

The teacher checks and corrects the practical part of the outline - answers to the tasks, if there are any errors.

7) The teacher returns the notes of the missed lesson to the student. The department teacher keeps a Register of accepted notes for missed lessons in the form, which is an appendix to the academic journal and shows the dynamics of students' mastery of the missed learning topics.

8) The department does not establish a separate schedule indicating the hours for accepting notes of missed classes.

9) Students do not make up for missed lectures, but missed lectures are counted towards the total number of missed classroom hours in the academic discipline.

10) The student receives points only for classroom lessons, and with this accumulated number of points has the right to participate in the final knowledge control in the discipline, during which, taking into account the points of current studies, he must accumulate at least 111 points.

12) He re-studyes the missed classroom topic of the lesson during preparation for the final examination in the discipline according to the list of questions presented.

by the department for final control;

13) The development of practical skills is regularly practiced in practical classes throughout the entire period of mastering the discipline.

Final controlfor students is held**in the form of differential credit** and is carried out upon completion of studying all the topics of the module in the last lesson of the module.

Students who have completed all types of work provided for in the curriculum and have missed no more than 7 hours (including lectures) and have attended 75% of classroom classes are eligible for credit. Admission is not determined in terms of grades.

The department does not conduct differential credit in the form of a separate lesson.

Incentive points, by decision of the department, may be added to the number of points in the discipline by students who have scientific publications or have won prizes for participation in the discipline Olympiad among Ukrainian universities, performance of individual work, active attendance of lectures in a total of no more than 10.

Discipline assessment

When assigning a grade for a discipline, the number of points accumulated by the student is taken into account.

The total score is calculated based on the traditional scale grades given during the module (for each lesson), the arithmetic mean (A) of the traditional scale grades is calculated, rounded to 2 (two) decimal places, divided by the maximum traditional grade, namely “5”, and multiplied by the maximum score for the current educational activity, namely 200, according to the formula:

$$\frac{\mathrm{CA}}{\mathbf{5}} \cdot \mathbf{200}$$

Maximum score 200, minimum - 111).

The assessment of performance in the discipline is rating and is given on a multi-point scale taking into account current control, is determined by the ECTS system and the traditional scale adopted in Ukraine.

When receiving an unsatisfactory grade in the discipline within the range of 60-110 points (FX) The student is given the right to retake unsatisfactory grades no later than three days before the final examination in order to accumulate the minimum number of points for passing the discipline.

Assessment of knowledge in the discipline is carried out according to the appropriate scale:

Ratingin points	**Ratingby national scale**	**ECTS grade**	
		Rating	**Explanation**
170-200	Perfectly	AND	Excellent (excellent performance with only a few errors)
155-169	Good	B	Very good (above average with a few errors)
140-154		WITH	Good (generally correct) execution with a certain number of significant errors)
125-139	Satisfactorily	D	Satisfactorily(not bad, but with a significant number of shortcomings)
111-124		E	Enough(performance satisfies minimum criteria)
60-110	Unsatisfactorily	FX	Unsatisfactorily (withre-assembly possible)
1-59		F	Unsatisfactorily (withmandatory re-study of the discipline)

If a student does not score the minimum number of points (111 points) during the current control, then he automatically receives an unsatisfactory grade and the discipline is considered failed. The student has the right to retake the test twice. During the retake, the student is offered test tasks that contain questions on all topics

included in the discipline study program. If the test is passed, the student receives a grade of E with a minimum number of points, 111.

When receiving an unsatisfactory grade in the discipline within the range of 1-59 points (F) The student is required to re-study it during extracurricular hours on a paid basis.

Retaking of subjects with unsatisfactory grades is carried out according to a schedule drawn up by the department and agreed with the dean (the interval between attempts or subjects is at least 3 days).

Re-enrollment of a previously studied disciplinestudent (transfer, renewal, student mobility, academic leave, repeated course) is carried out by the dean's office according to the data of his academic certificate, provided that there is a coincidence in the number of credits in the academic discipline, with an indication of the fact of re-enrollment in the transcript.

In conditions of martial law and quarantine, distance learning in the discipline is available on the Likar_NMU educational platform.

Distance learning is carried out in the following forms: independent work; practical training and control measures.

Lectures, consultations, and practical classes are conducted in synchronous and asynchronous modes in accordance with the curriculum and class schedule.

Lectures are held synchronously via Zoom and can be viewed asynchronously; students receive an audiovisual recording of the lecture material.

The practical lesson involves conducting the introductory part of the lesson in Zoom for the purpose of oral questioning, explaining incomprehensible aspects of the lesson and tasks. After the questioning and explanation, students perform practical work independently, namely: solving situational tasks, testing and writing a protocol with subsequent uploading to Likar_NMU in synchronous mode. The student is assessed by the teacher taking into account the results of the survey, testing and the completed practical task (according to the instructions for assessing students' educational activities when working in the Likar_NMU platform). The arithmetic

mean value of the traditional assessment is entered into the group's student success registration log.

The seminar is held synchronously, also on the Likar_NMU platform. Based on individual tasks set in advance by the teacher, students prepare essays and upload them to the appropriate section of the lesson topic.

To prepare for the lesson, the student has the opportunity to familiarize himself with the educational material, which is presented in the form of various information resources (text, video, presentation, electronic manual).

Interaction between the teacher and the student takes place via a chat created for each lesson and lecture course, as well as via Zoom conferences and Viber and Telegram messengers.

In order to deepen knowledge and increase the overall score, a student can complete an individual research paper with the participation of a teacher. The paper is also uploaded to Likar_NMU in the form of an abstract or presentation with text or audio accompaniment.

The student performs the test work in synchronous mode at the last lesson in the form of a test control at Likar_NMU, for which he receives a traditional grade: 20-18 correct answers - 5; 17-15 correct answers - 4; 14-12 correct answers - 3; less than 12 correct answers - 2.

13. COURSE POLICY:mandatory adherence to academic integrity by students, namely:

- independent performance of all types of work, tasks, and forms of control provided for by the work program of this academic discipline;
- references to sources of information when using ideas, developments, statements, information;
- compliance with the norms of legislation on copyright and related rights;
- providing reliable information about the results of one's own educational (scientific, creative) activities, research methods used and sources of information.

Points for any type of academic activity may be withdrawn if the student violates academic integrity, plagiarism, or misses a submission deadline.

14. METHODOLOGICAL SUPPORT

- Educational literature (textbooks, manuals, practical courses developed by the department staff);
- Methodological recommendations for each lesson topic;
- Multimedia lecture material;
- Didactic and demonstration materials (posters, models, devices, workbooks, diagrams, video and audio recordings, etc., intended to support the educational process);
- Educational materials with a brief summary of the content of the topics in the academic discipline (Likar);
- Situational tasks;
- Test tasks;
- List of theoretical questions for each lesson and from disciplines to the final test;
- List of topics for individual works.

List of theoretical questions for the final examination

Content module 1. General issues of occupational safety.

1. Key terms and definitions in the field of occupational safety: occupational safety, working conditions, harmful production factor, dangerous production factor, safe working conditions, workplace, safety equipment, etc.
2. Subjects and objects of labor protection.
3. Current state of occupational safety in Ukraine and abroad.
4. General issues of occupational safety in medicine.
5. Legal basis of labor protection (Constitution of Ukraine, Labor Code, Law of Ukraine “On Labor Protection”, etc.).
6. Normative and legal acts on labor protection (NPAOP): definition, basic requirements and features. NPAOP structure. NPAOP register.

7. National standards of Ukraine on labor protection. System of labor safety standards (SSBS). Sanitary, construction standards, other national documents on labor protection.

8. Occupational safety acts in force in the organization, their composition and structure. Occupational safety instructions. Development and approval of occupational safety acts in force in the organization.

9. Liability of officials and employees for violation of labor protection legislation.

10. Social partnership as a principle of legislative and regulatory provision of occupational safety. Social dialogue in the European Union.

11. International standards of social responsibility. Standard SA 8000 “Social Responsibility”. International standard ISO 26000 “Guidelines on Social Responsibility”.

12. The legislative framework of the European Union on occupational safety and health. EU directives on occupational safety and health. Framework Directive 89/391/EC “On the introduction of measures to encourage improvements in the safety and health of workers at work”.

13. .Labor standards of the International Labor Organization. ILO Conventions and Recommendations. Fundamental ILO Conventions in the field of labor protection.

14. International cooperation in the field of occupational safety. Main areas of cooperation. United Nations. World Health Organization. International Atomic Energy Agency. International Labor Organization. European Union.

15. Occupational safety as an integral part of social responsibility.

16. State Department of Labor Protection, state supervision and public control over labor protection in Ukraine.State supervision bodies for labor protection, their main powers and rights. Public control over compliance with labor protection legislation.

17. State Labor Service of Ukraine, its structure and functions.

18. Risk-based approach to assessing the potential and real danger of the harmful effects of environmental factors on human health.

19. Identification, assessment and reduction of risks of hazardous events, quality management and the formation of a safety culture.

20. Collective and labor agreements as a reflection of labor protection legislation. Law of Ukraine “On Collective Agreements and Contracts” and its content. Order of the Ministry of Labor and Social Policy of Ukraine “On Approval of the Form of an Employment Contract between Employees and an Individual”. Conclusion of an employment contract based on the specifics of types of work and the features of functional duties. Regulation of labor protection issues in a collective agreement. Employment under a contract.

21. Liability of officials and employees for violation of labor protection legislation.

22. Sectoral programs for improving occupational safety, health and the working environment. Regulations on the organization of the occupational safety management system in the industry.

23. Structure, main functions and tasks of occupational safety management in medical institutions. Occupational safety service of a medical and preventive institution (ZOH), its structure, number, main tasks and functions. Rights and obligations of employees of the occupational safety service.

24. Commission on labor protection in medical institutions, main tasks and rights. Industrial safety and labor protection offices, main tasks and areas of work.

25. Planning of occupational safety measures. Identification, assessment and reduction of risks of hazardous events, quality management and safety culture. Accounting and analysis of occupational safety indicators. Plans for localization and elimination of emergency situations and accidents.

26. Principles of organization, types of training and testing of knowledge on labor protection. Instructions on labor protection, their types. Stimulation of labor protection.

27. Socio-economic effect of occupational safety of medical workers.

28. Occupational hygiene and physiology – definition, purpose, objectives, research methods.

29. Classification of dangerous and harmful production factors.

30. The main physiological characteristics of physical and mental labor. Physiological changes that occur in the organs and systems of the human body during labor.

31. Human performance, dynamics and reasons for its change during the working day.

32. The physiological essence of fatigue, existing theories and modern understanding of the mechanism of its occurrence.

33. Ways to prevent the development of fatigue. Methodology for developing rational work and rest regimes.

Content module 2. Peculiarities of working conditions in the medical industry

34. Classification of work of medical workers.

35. Psychophysiological harmful and dangerous factors of the production environment and their impact on the health of medical workers.

36. Physical harmful and dangerous factors of the production environment and their impact on the health of medical workers.

37. Chemical harmful and dangerous factors of the production environment and their impact on the health of medical workers.

38. Biological harmful and dangerous factors of the production environment and their impact on the health of medical workers.

39. Hygienic features of working conditions and health status of doctors of various specialties (surgical, therapeutic, dental, etc.).

40. Features of professional and industrially related morbidity of medical workers.

41. Basic methods and criteria for sanitary and hygienic assessment of working conditions of medical workers.The concept of difficulty, tension, harmfulness and danger of work.

42. Methodology for evaluating the work of medical workers according to the criteria of “Hygienic classification of labor according to indicators of harmfulness and danger of factors of the production environment, difficulty and intensity of the labor process.

43. Certification of workplaces according to working conditions. Purpose, main tasks and content of certification. Organization of work and procedure for conducting certification of workplaces. Map of working conditions.

44. Methodology for investigating and recording accidents at work.

45. Methodology for investigating and recording non-industrial accidents.

46. Traumatism, acute and chronic occupational diseases and poisoning in medicine,methodology for their accounting and investigation.

47. Measures to prevent accidents, injuries and occupational diseases of medical workers.

48. Social Insurance Fund for Industrial Accidents and Occupational Diseases. Law of Ukraine “On Compulsory State Social Insurance for Industrial Accidents and Occupational Diseases That Caused Loss of Ability to Work.” Compensation for Damage to the Victim at Work.

Content module 2. Special issues of occupational safety in the medical industry.

49. Hygienic requirements for the design and construction of healthcare facilities (HCFs).

50. Safety requirements during the operation of basic medical equipment.

51. Measures to reduce physical and neuropsychic overload of medical workers. Scientific organization of work in health care facilities. Rational organization of the workplace and furniture. Main ways to prevent fatigue.

52. Measures to reduce the adverse effects of physical factors on the body of medical workers. Requirements for the microclimate.

53. Measures to reduce the adverse effects of noise, vibration, and ultrasound.

54. Requirements for industrial lighting of workplaces of medical workers.

55. Requirements for ultraviolet radiation, radio frequency electromagnetic fields and laser radiation at the workplaces of medical workers.

56. Personal computer requirements.

57. Requirements for ionizing radiation of medical and pharmaceutical workers.

58. Measures to reduce the adverse effects of chemical factors on the body of medical workers. Ways to prevent air pollution in the work area with harmful chemicals.

59. Measures to prevent the harmful effects of biological factors. Sanitary, hygienic and anti-epidemic regime of the hospital.

60. Hygienic education and sanitary education.

61. Requirements for personal protective equipment and work clothing for medical workers.

62. Organization of air exchange in healthcare facilities, ventilation.

63. Occupational safety of medical personnel in individual structural units of the health care institution (operating unit, radiodiagnostic units, physiotherapy rooms, pathology departments and morgues, etc.), the main regulatory documents regulating these issues.

64. Working hours standards for employees of healthcare institutions and organizations.

65. Occupational safety in higher medical educational institutions.

66. Guarantees of workers' rights to labor protection, benefits and compensation for difficult and harmful working conditions. Obligations of workers to comply with the requirements of regulatory legal acts on labor protection.

Content module 3. Special issues of occupational safety in the medical industry

67. Prevention of nosocomial infections as a component of occupational safety in medicine.

68. The concept of dangerous infectious diseases.

69. HIV and AIDS in the practice of a doctor. Possible ways of biological material from an HIV-infected person entering the body of a medical worker. The concept of an “industrial accident” and emergency referral to the AIDS Center/Institute of Infectious Diseases.

70. Viral hepatitis, their potential danger for medical workers. Prevention of hepatitis virus infection and immunoprophylaxis in contact with biological materials of a patient with hepatitis.

71. Tuberculosis and its prevalence in Ukraine and the world. Potential occupational hazard for medical workers.

72. COVID-19 and its prevalence in Ukraine and the world. Potential occupational hazard for medical workers.

73. Measures to prevent droplet infections among healthcare workers.

74. Colors, safety signs and signal markings.

75. General safety requirements for technological equipment and processes in healthcare facilities. Safety during the operation of pressure systems and cryogenic equipment.

76. Electrical safety. Classification of premises according to the degree of danger of electric shock.

77. Conditions for electric shock. Safe operation of electrical installations: electrical protective equipment and measures.

78. Fundamentals of fire safety. State fire supervision. Fire prevention in the design and operation of health care facilities and medical equipment.

79. Indicators of explosion and fire hazard properties of materials and substances. Categories of premises by explosion and fire hazard. Classification of explosive and fire hazardous premises and zones. Fire resistance of building structures and materials.

80. Basic means and measures for ensuring fire safety of a production facility. Fire alarm system. Fire extinguishing means.

81. Personnel actions in the event of a fire. Ensuring safe evacuation of personnel. Ensuring and monitoring fire safety at production facilities. Training of health care workers in fire safety rules.

82. Socio-economic prerequisites for the use of women, adolescents, and older people in health care facilities.

83. The main physiological and anatomical features of the body of women, adolescents and people of older age groups, which cause increased sensitivity to harmful factors of the production environment.

84. The impact of environmental factors on the female body. The difference between the sensitivity of the female and male body to harmful environmental factors. Long-term consequences of the impact of harmful environmental factors.

85. Requirements for working conditions for women in healthcare institutions. Main provisions of legislation regulating women's work. Benefits provided to women in connection with pregnancy.

86. The influence of factors of the production environment on the body of adolescents. The sensitivity of the body of adolescents to the influence of harmful factors of the production environment.

87. Requirements for working conditions of adolescents in healthcare institutions. Main provisions of legislation regulating the work of adolescents.

88. Requirements for working conditions of older people in healthcare institutions. Main provisions of legislation regulating the work of older people.

89. Features of the health status of women, adolescents and older people in healthcare institutions.

90. Determination of the main indicators of statistical analysis of the state of industrial injuries and occupational morbidity in healthcare.

91. Trends in occupational injuries and occupational morbidity in domestic healthcare institutions.

Practical skills

1. Apply the requirements of legislative and regulatory documents to

implement methods and means of the labor protection system for workers in medical institutions.

2. Apply the basic forms of organization and management of occupational safety of medical workers.

3. Identify harmful and dangerous factors of the production environment in the workplace of medical workers and give them a hygienic assessment.

4. Assess the organization of the workplace, furniture, and medical equipment in the health care facility.

5. Predict the possibility of occupational, work-related diseases, accidents, and emergencies.

6. Conduct certification of workplaces according to working conditions based on indicators of difficulty, intensity, harmfulness and danger of the production process.

7. To substantiate and develop a plan of measures to improve the working conditions of medical workers and monitor their effectiveness.

8. Monitor compliance with personal hygiene rules and the use of personal protective equipment by medical workers.

9. Conduct investigations and records of accidents, acute and chronic occupational diseases, and injuries in the medical field.

10. Organize fire and electrical safety measures.

11. Develop occupational safety instructions for medical workers.

12. Conduct training and testing of occupational safety knowledge.

List of topics for individual works

1. 1. Occupational safety in healthcare institutions. Domestic and international experience.

2. General issues of occupational safety in medicine.

3. Social partnership as a principle of legislative and regulatory provision of occupational safety. Social dialogue in the European Union.

4. International cooperation in the field of occupational safety. Main areas of cooperation. United Nations. World Health Organization. International Atomic Energy Agency. International Labor Organization. European Union.

5. Risk-based approach in assessing the potential and real danger of the harmful effects of environmental factors on human health.

6. The physiological essence of fatigue, existing theories and modern understanding of the mechanism of its occurrence.

7. Ways to prevent the development of fatigue. Methodology for developing rational work and rest regimes.

8. Hygienic features of working conditions and health status of doctors of various specialties.

9. Preventive aspects of accidents, injuries and occupational diseases of medical workers.

10. The concept of dangerous infectious diseases in the practice of a pediatrician.

11. Occupational safety in pediatric healthcare facilities.

12. The main physiological and anatomical features of the body of women, adolescents and people of older age groups, which cause increased sensitivity to harmful factors of the production environment.

13. Trends in occupational injuries and occupational morbidity in domestic healthcare institutions.

15. RECOMMENDED READING

Main:

1. Practical occupational safety in the medical industry / O.P. Yavorovsky, I.V. Sergeta, Yu.O. Paustovsky, V.I. Zenkina and others. – K.: VSV “Medicine”, 2023. – 399 p.

2. Occupational safety in the medical industry: textbook / O.P. Yavorovsky, I.V. Sergeta, Y.O. Paustovsky, V.I. Zenkina and others.. - K.: VSV "Medicine", 2021. - 488 p.

3. Law of Ukraine on Labor Protection: regulatory documents taking into account the latest changes in the legislation as of 19. 12. 2024 - Sumy: VVP Notis LLC, 2024. - 32 p. - (Laws of Ukraine).

Additional:

1. Pavlovska L.V., Blahun N.M. Occupational hygiene in medical institutions: risks and ways to minimize them. Monograph. Kyiv: Publishing house "Zdorovya", 2023. 180 p.

2. Occupational safety in the industry / E. Marcinysha, O. Voynalovych. – Kyiv: LLC “University Book”, 2021. – 200 p.

3. Occupational Health and Safety in the Healthcare Sector. Basel, Switzerland: MDPI, 2022. 248 p.

4. Oster, CA, & Braaten, JS (2022). High Reliability Organizations: A Healthcare Handbook for Patient Safety & Quality. 2nd ed. McGraw Hill Medical. 288 p.

5. The Healthcare Quality Book: Vision, Strategy, and Tools. (2025). 5th ed. American College of Healthcare Executives. 450 p.

Electronic resources

1. State Labor Service of Ukrainehttp://dsp.gov.ua/.

2. World Health Organizationhttp://www.who.int/en/.

3. International Labor Organization http://www.ilo.org/global/lang--en/index.htm.

4. Likar.nmu portal https://likar.nmu.kyiv.ua