

Educational and Scientific Institute of Public Health and Preventive Medicine
Department of Hygiene, Environmental and Occupational Health

Syllabus of the academic discipline

"Occupational safety in the industry"

(main discipline)

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

2026-2027 academic year

Department of Hygiene, Environmental and Occupational Health

Contacts:https://nmuofficial.com/zagalni-vidomosti/kafedri/kafedra-gygyeny-truda-y-professyonalnyh-boleznej/

Syllabus of the academic discipline: Occupational safety in the industry

Higher education level:second (master's) level of higher education

Specialty: I2 Medicine

Educational program:"Medicine"

1. Course abstract:

Year of study:1st year of study.

Semester(s):I or II.

Language of instruction: Ukrainian and English.

Form of study:daytime.

Module volume; total number of hours – 60; of which lectures – 2 hours, practical – 28 hours; number of ECTS credits – 2.

2. The purpose of teaching the discipline– formation of knowledge, skills and competencies in future specialists to ensure effective management of occupational safety in the medical industry, creation of favorable conditions of the production environment and occupational safety in the industry in accordance with current legislative and other regulatory legal acts, ensuring the preservation of life, health and working capacity in production conditions through the application of a complex of legislative, organizational, engineering and technical, sanitary and hygienic, medical and preventive and other measures aimed at preventing accidents, industrial injuries and the occurrence of occupational and industrially related diseases

3. Learning outcomes: The program competencies according to the educational and professional program of the specialty I2 "Medicine", the formation of which is ensured when teaching the discipline "Occupational safety in the industry" include (EC 15: GC 1-8, 10-13, 16; FC 4,5, 13,15-17, 25; PLO 1,3, 17, 27, 28,29):

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 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.

4. Lecture topics:

No.	Lecture topic	Number of hours
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***

6. Independent 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

7. 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: work with the results of a survey, questionnaire, study of working conditions of medical workers.

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.

8. 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.NMU, Zoom, Google meeting, Classroom, etc.).

V. Practical teaching methods: surveys, situational tasks.

9. Evaluation

Control methods: oral, written, practical, test.

Current control involves 100% questioning of students during a practical lesson with an assessment of all components of the lesson - test control, oral questioning, solving situational problems. Proof of the student's work during the lesson is a protocol, which is checked and signed by the teacher after each practical lesson.

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;

– the ability to present the results of independent creative work.

Students' knowledge of the seminar topic is also 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 administered, 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.

Final inspection form: differential credit.

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.

The total score for medical students 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 academic activity, namely 200, according to the formula:

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

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 participating in the discipline Olympiad among Ukrainian universities for performing individual work, in a total of no more than 200 points.

Distribution of points received by students

Ongoing assessment and independent work*														**Sum**
Content module 1				**Content module 2**				**Content module 3**						
T1	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9**	**T10**	**T11**	**T12**	**T13**	**T14**	
"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	"2" -	Mach
"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	"5"	200
14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	

The traditional score "2", in any variant, corresponds to 0 points and is not included in the overall score.

* - 50% of the points are awarded for the SRS (for each topic);

Example of distribution of points for a discipline

Types of assessment	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9**	**T10**	**T11**	**T12**	**T13**	**T14**	Total
Test control	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	200*
Oral survey	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	
Solving situational problems	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	
Research work*	up to 10														up to 10*
Total from the discipline															200

*Research work is performed by the student at his/her own request and under the conditions that the student does not receive the maximum score for the current academic activity.

Distribution of points assigned to students when assessing current academic performance

No. of the company	**Topic name**	**Number of points corresponding to the traditional assessment**			
		"5"	**"4"**	**"3"**	**"2"**
1.	Topic 1. Legal basis of labor protection	14.3	11.4	8.6	0
2.	Topic 2. Organization of occupational safety in medical institutions and institutions of higher medical education.	14.3	11.4	8.6	0
3.	Topic 3. Occupational hygiene and physiology, importance for creating safe working conditions	14.3	11.4	8.6	0
4.	Topic 4. Occupational hazards in the performance of functional duties of medical workers	14.3	11.4	8.6	0
5.	Topic 5. Hygienic classification of working conditions and assessment of the health status of medical workers	14.3	11.4	8.6	0
6.	Topic 6. Accidents and incidents in healthcare facilities, their investigation and recording	14.3	11.4	8.6	0
7.	Topic 7. Prevention of harmful and dangerous effects of production environment factors on the body of medical workers	14.3	11.4	8.6	0
8.	Topic 8. Occupational safety in individual structural units of health care institutions and institutions of higher medical education	14.3	11.4	8.6	0
9.	Topic 9. Dangerous infectious diseases in the work of medical workers	14.3	11.4	8.6	0
10.	Topic 10. Fire and electrical safety in medical institutions	14.3	11.4	8.6	0
11.	Topic 11. Occupational safety of women, adolescents and older people in healthcare facilities.	14.3	11.4	8.6	0

No. of the company	Topic name	Number of points corresponding to the traditional assessment			
		"5"	"4"	"3"	"2"
12.	Topic 12. Prevention of occupational injuries in healthcare facilities	14.3	11.4	8.6	0
13.	Topic 13. Methodology for organizing and conducting preliminary and periodic medical examinations of healthcare workers	14.3	11.4	8.6	0
14.	Topic 14. Test paper	14.3	11.4	8.6	0

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Correspondence of scales for assessing the quality of learning material

Score	National scale assessment	Scale rating ECTS	Explanation
170-200	Perfectly	A	Excellent (excellent performance only with a small number of errors)
155-169	Good	B	Very good (above average with several errors)
140-154		C	Good (generally correct execution with a certain number of significant errors)
125-139	Satisfactorily	D	Satisfactory (not bad, but with significant number of defects)
111-124		E	Sufficient (performance is satisfactory) minimum criteria)
60-110	Unsatisfactorily	FX	Unsatisfactory (with the possibility of re-testing) drafting)
1-59		F	Unsatisfactory (with mandatory retake) studying the discipline)

10. Course Policy:mandatory adherence to academic integrity by students, namely:

- independent performance of all types of work, tasks, and forms of control provided for in the work program of the academic discipline "Occupational Safety in the Industry";
- 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.

How are issues of retaking/re-studying a discipline resolved?:

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.

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.

If a student receives an unsatisfactory grade in a discipline within the range of 1-59 points (F), he/she is required to re-study it during extracurricular hours on a paid basis.

11. 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 Organizationhttp://www.ilo.org/global/lang--en/index.htm.

4. Likar.nmu portalhttps://likar.nmu.kyiv.ua

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, Ecological and Occupational Health, NMU

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

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