MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Hygiene, Social Medicine and Public Health

"APPROVE"
The first vice-rector
Ishchenko NM
"__" _____ 2021

CURRICULUM WORK PROGRAM

"Hygiene and ecology, Life safety, bioethics, biosafety, Occupational Health"
field of knowledge 22 "Health care"

Specialty 222 "Medicine"

Developer	Muntian L.Ya.
Head of the Department of Developer	Zyuzin V.O.
Guarantor of the educational program	Klymenko M.O.
Director of the institute GV	Grishchenko G.V.
Head of EMD	Shkirchak S.I.

Mykolaiv – 2021

1. Description of the discipline

Characteristic	Characteristics of the discipline					
Name of discipline	Hygiene and ecology, BJD, bioethics, biosafety, labor protection in the industry					
Branch of knowledge	22 "Health"					
Specialty	222 Medicine					
Specialization (if any)						
Educational program	Medicine					
Level of higher education	Master					
Discipline status	Normative					
Course	I, III, IV, VI					
Total number of ECTS credits / hours	9.5 credits / 285 hours					
Semester number (s)	Full-time					Correspondence
	1-st	3-rd	4-th	5-th	12-th	
Course structure:	Full-time					Correspondence
– Lectures	1 sem.	3 sem.	4 sem.	5 sem.	12 sem.	
– practical training	7,5	7,5	8	8	-	
– hours of independent work of students	15	15	24	24	38	
	20	20	28	28	37	
Percentage of classroom load	53%					
Language of instruction	English					
Form of intermediate control (if any)						
Form of final control	Credit, exam					

The discipline "Safety of life; Fundamentals of Bioethics and Biosafety ” I Semester

2. Purpose, tasks and planned learning outcomes

The purpose of studying the discipline "Safety of life; Fundamentals of Bioethics and Biosafety ”follows from the goals of the educational-professional training program for graduates of medical institutions of higher education and is determined by the content of those systemic knowledge and skills that a doctor must possess. The knowledge that students receive from the discipline is basic for the block of disciplines that provide general and professional training.

Studying the discipline "Safety of life; Fundamentals of Bioethics and Biosafety "forms a holistic imagination of students and lays the foundations of a healthy lifestyle and prevention of dangerous situations in the professional activities of the future doctor.

Learning objectives:

- formation of knowledge, skills and competencies to preserve human health and life in modern living conditions, the formation of knowledge, skills and competencies to protect against hazards of man-made, anthropogenic, natural origin and create comfortable conditions for human life;
- formation of knowledge on legal and organizational aspects of labor protection of medical workers;
- formation of knowledge about the moral side of human activity in medicine and biology;
- formation of knowledge on the preservation of living organisms of their biological essence, biological qualities, prevention of large-scale loss of biological integrity;
- formation of knowledge about legislative documents that protect the individual, society and humanity as a whole from the undesirable and detrimental consequences of the introduction of new medical and biological technologies, education of deep conviction in the need for strict ethical and moral norms, rules and principles in their practice;
- formation of the ability to evaluate the latest achievements of biology and medicine in terms of determining the degree of their danger to man and society today and in the future.

Prerequisites for studying the discipline (interdisciplinary links)

"Life Safety; Fundamentals of Bioethics and Biosafety "as a discipline:

a) is based on students' understanding of the basic principles of knowledge in anatomy, biology, medical and biological physics, history of medicine, medical, biological and bioorganic chemistry and integrates with these and other disciplines;

b) creates a theoretical basis for students to master theoretical and clinical disciplines, which involves both the integration of teaching with basic theoretical and clinical disciplines, and the acquisition of knowledge on life safety, bioethics and biosafety to use this knowledge in further education and professional activities;

c) forms the methodological foundations of future clinical thinking;

d) provides an opportunity for bioethical analysis of clinical situations for further diagnosis, treatment and prevention of diseases.

Expected learning outcomes. As a result of studying the discipline, students must have the skills:

- analysis and assessment of dangerous situations;
- independent decision-making on the development and use of means of protection against dangers in case of emergencies;
- use of regulatory framework for the protection of man and the environment.

According to the requirements of the educational-professional program, students must:

o know:

- development of measures and means of protection against the influence of dangerous and harmful factors;
- forecasting and prevention of emergencies, and in case of their occurrence, the introduction of decisive measures to eliminate them;
- use in their future practical activities of legal, technical, environmental, preventive and educational measures aimed at ensuring healthy and safe living conditions in modern conditions;
- knowledge of legal and organizational aspects of labor protection of medical workers;

- knowledge of laws, principles and rules governing the professional conduct of health professionals and researchers that promote the safe use of new medical technologies and prevent harm to humans, their offspring, all mankind and the biosphere as a whole;
- the formation of respect for life and dignity of a healthy and sick person, whose interests should always be valued above the interests of science or society;
- formation of the ability to identify and analyze conflict situations that arise at the junction of medicine, biology, philosophy and jurisprudence, and to identify specific ways to resolve them;
- formation of the foundations of the ability to use new ethical principles (ie nooethics), to prevent a global environmental crisis, essentially noosphere;

o be able to:

- to predict the consequences of violations of the valeological basis of formation
healthy lifestyle and their impact on the safety of human life;
- to analyze and evaluate situations dangerous to life, health and professional activity and to make independent decisions on taking urgent measures;
- study of laws, principles and rules of regulation of professional behavior of medical workers and researchers, which promotes the safe use of new medical technologies and warns doctors and scientists about the inadmissibility of harm to humans, their offspring, all mankind and the biosphere as a whole;
- the formation of respect for life and dignity of a healthy and sick person, whose interests should always be valued above the interests of science or society;
- ability not only to identify and analyze conflict situations that arise at the intersection of medicine, biology, philosophy and law, but also to identify specific ways to resolve them;
- the ability to be governed by new ethical principles (ie nooethics), to prevent a global environmental crisis, essentially a noosphere crisis, which can be catastrophic and irreversible.
- a crisis that can be catastrophic and irreversible;

o **have competence**

- on the application of knowledge on life safety, basics of bioethics and biosafety to promote a healthy lifestyle, as well as to prevent the occurrence and development of diseases;
- about the main perspective directions of development of life safety, bases of bioethics and biosafety.

The developed program corresponds to the **educational-professional program (EPP) and is focused on the formation of competencies:**

- general (GC) - GC1 EPP:

- Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
- Knowledge and understanding of the subject area and understanding of the profession;

- professional (PC) - PC10, PC17 EPP:

- Ability to carry out medical and evacuation measures.
- Ability to conduct a performance examination.

According to the educational-professional program, the expected **program learning outcomes (PRN) include the skills of PLO1, PLO8-10 EPP:**

- Know the methods of analysis, synthesis and further modern learning. Be able to analyze information, make informed decisions, be able to acquire modern knowledge. Establish appropriate connections to achieve goals. Be responsible for the timely acquisition of modern knowledge.
- Know the responsibilities and ways to perform the tasks. Be able to set goals and objectives to be persistent and conscientious in the performance of duties. Establish interpersonal relationships to effectively perform tasks and responsibilities. Responsible for the quality of the tasks.
- Know your social and community rights and responsibilities. To form one's civic consciousness, to be able to act in accordance with it. Ability to convey one's public and social position. Be responsible for your civic position and activities.
- Know the problems of environmental protection and ways to preserve it. Be able to form requirements for themselves and others to preserve the environment. Make proposals to the relevant authorities and institutions on measures to preserve and protect the environment. Be responsible for the implementation of environmental protection measures within its competence.

3. The program of the discipline

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum consists of two blocks.

Block 1. The basic principles of health and life safety in modern society

Topic 1. Theoretical foundations of life safety.

Subject "Safety of life; basics of bioethics and biosafety ". The main tasks of the subject. Classification of hazards. Principles and methods of ensuring the safety of human life. Fundamentals of life safety management. System analysis of life safety. Legal security of human life.

Topic 2. Physiological and psychological factors of safety of life of modern man.

Unity of biological systems of the human body. Factors that ensure human health. Functional systems of the human body in ensuring its safety. Protective functions of the human body. The role of receptors and analyzers of the human body in the assessment of system factors

"Man - the environment." Psychophysiological state of the organism.

Topic 3. Negative environmental factors and their impact on human health.

The external environment and the environment of human life. Classification and characteristics of the human environment. Classification and characterization of negative factors of the human environment. Physical negative factors. Negative factors of energy origin. Chemical negative factors. Biological anthropogenic negative factors. Psychophysical negative factors. Social dangers.

Topic 4. Valeological and sanological principles of safety of human health and life.

Human health as a medico-biological and social category. Spiritual, mental, physical, social aspects of human health. Valeology and sanology, definitions, essence and subject of their study. Indicators of individual human health. Factors that ensure the stability of health. Risk factors and risk groups.

Topic 5. Bad habits and the associated danger to human life.

The formation of the foundations of a market economy (transition period) has created a fundamentally new social and economic situation in Ukraine. Now the division of society by level and source of wealth, the presence or absence of private property is becoming increasingly important. Under such circumstances, the forms and sizes of social deviations (crime, suicide, drug addiction, prostitution, etc.) increase sharply. These and many other forms of perverted behavior in the face of the decline of the social control system have become threatening to society. The mechanism of harmful effects on the human body of alcohol, smoking and drugs. Threat to personal and public life in their use. Methods of combating bad habits.

Topic 6. Food safety as a component of safe human life.

For normal human life it is necessary not only to provide an adequate (according to the needs of the body) amount of energy and nutrients, but also to comply with the appropriate ratios between the numerical factors of nutrition. Nutrition with the optimal ratio of nutrients is considered balanced. General ideas about metabolism and energy. Physiological features of the human body should be considered taking into account its interaction with the environment.

Topic 7. Dangerous and life-threatening infectious diseases in the practice of health care. Occupational hazards in the life of a doctor.

Occupational hazards in the performance of functional duties of a physician.

The list of occupational hazards in the performance of functional duties of the doctor. Rules of industrial sanitation, anti-epidemic regime and personal hygiene of employees of disinfection units and units. Dangerous infectious diseases in the practice of a medical worker. The concept of dangerous infectious diseases. HIV and AIDS in the doctor's practice.

Block 2. Fundamentals of bioethics and biosafety

Topic 8. History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine.

The subject of bioethics is a set of controversial ethical issues that can be identified in the process of medical practice, during biomedical research and experiments, or in the case of a combination of these professional activities. A retrospective assessment of the history of bioethics shows that in the 1970s it focused on the protection of human rights, in the 1980s on the problem of improving the quality of life, and in the 1990s it began to take on the character of global bioethics. According to the World Health Organization, 5 V of gross domestic product is the allowable minimum health expenditure.

Topic 9. Legal basis for biomedical research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies.

One of the stimuli for the development of a new science of bioethics was the discovery in the field of genetic engineering. The topic of human cloning and scientific developments in this field are becoming increasingly socially important, which inevitably makes them the subject of philosophical analysis. Prenatal genetic testing must take place during the appropriate period of embryonic development in order to detect and influence its future life. The world community pays great attention to the development of scientifically sound approaches to the potential risk of using GMOs, which would ensure adequate protection of human health and the environment.

Topic 10. Ethical and legal issues of abortion, transplantation, stem cell use, donation. Euthanasia. Surrogacy.

Abortion is an abortion. Stem cells are able to transform, depending on, into tissue cells of various organs. One stem cell gives many active, functional offspring. The rights and values of the human person are important among the issues under discussion today. Human life is the basis and necessary source and condition of every human activity and society. Organ donation and transplantation have significant personal and social applications. Surrogacy is a method of treating infertility in which an embryo obtained from genetic parents is transferred to another woman's uterine cavity.

The structure of the discipline

№ s / n	Topic	Full-time			
		Number of hours			
		total	including:		
			lectures	seminars	independent work
Block 1. Basic principles of formation of safety of health and life in modern society					
1.	Topic 1. Theoretical foundations of life safety	5	1	2	2
2.	Topic 2. Physiological, psychological and social foundations of life safety of modern man	5	1	2	2
3.	Topic 3. Negative environmental factors and their impact on human health	3,5	0,5	1	2
4.	Topic 4. Valeological and sinological principles of forming the safety of human health and life	3,5	0,5	1	2
5.	Topic 5. Bad habits and the associated danger to human life	3,5	0,5	1	2
6.	Topic 6. Food safety as a component of safe human life	3,5	0,5	1	2
7.	Topic 7. Dangerous and life-threatening infectious diseases in the practice of health care. Occupational hazards in the life of a doctor	3,5	0,5	1	2
Block 2. Fundamentals of bioethics and biosafety					
8.	Topic 8. History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine	6	1	2	3
9.	Topic 9. Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies	6	1	2	3
10.	Topic 10. Ethical and legal issues of abortion, transplantation, use of stem cells, donation. Euthanasia. Surrogacy.	5,5	1	2	
Total		**45**	**7,5**	**15**	**20**

4. The content of the discipline

4.1. Lecture plan

№ n \ n	Topic names	Number of hours
Block 1. Basic principles of formation of safety of health and life in modern society		
1.	**Topic 1. Theoretical foundations of life safety** 1) Principles and methods of ensuring the safety of human life. 2) Basics of life safety management. 3) System analysis of life safety. Legal security of human life.	1
2.	**Topic 2. Physiological, psychological and social foundations of life safety of modern man** 1) Functional systems of the human body in ensuring its safety. 2) Protective functions of the human body. 3) The role of receptors and analyzers of the human body in the assessment of factors of the system "man - habitat". 4) Psychophysiological state of the organism.	1
3.	**Topic 3. Negative environmental factors and their impact on human health** 1) Classification and characteristics of the human environment. 2) Classification and characterization of negative factors of the human environment. Physical negative factors. Negative factors of energy origin. Chemical negative factors. Biological anthropogenic negative factors. 3) Psychophysical negative factors. Social dangers.	0,5
4.	**Topic 4. Valeological and sinological principles of forming the safety of human health and life** 1) Spiritual, mental, physical, social aspects of human health. 2) Valeology and sanology, definition, essence and subject of their study. 3) Indicators of individual human health. 4) Factors that ensure the stability of health. Risk factors and risk groups.	0,5
5.	**Topic 5. Bad habits and the associated danger to human life** 1) The division of society by level and source of wealth, the presence or absence of private property. Forms and sizes of social deviations (crime, suicide, drug addiction, prostitution, etc.). 2) The mechanism of harmful effects on the human body of alcohol, smoking and drugs. Threat to personal and public life in their use. 3) Methods of combating bad habits.	0,5
6.	**Topic 6. Food safety as a component of safe human life** 1) A balanced diet with an optimal ratio of nutrients. 2) General ideas about metabolism and energy. 3) Physiological features of the human body, taking into account its interaction with the environment.	0,5
7.	**Topic 7. Dangerous and life-threatening hazards in the life of a doctor** 1) The list of occupational hazards in the performance of functional duties of the doctor. 2) Rules of industrial sanitation, anti-epidemic regime and personal hygiene of employees of disinfection units and units. 3) Dangerous infectious diseases in the practice of a medical worker. 4) The concept of dangerous infectious diseases. HIV and AIDS in the doctor's practice.	0,5
8.	**Topic 8. History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine** 1) Bioethics: subject, purpose and objectives in the health care system. 2) History of professional medical ethics, nooethics. History of bioethics. 3) Theoretical foundations of bioethics. Basic rules of bioethics and biosafety. 4) The relationship between health professionals, the patient and his family.	1
9.	**Topic 9. Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies** 1) Ethical foundations of biomedical research. Legal bases of realization of biomedical researches of the person and animals. The concept of biosafety and risk of biomedical technologies. 2) International documents on bioethics and human rights. Bioethics committees, history of creation, methods of organization, models, rights and responsibilities, prospects of activity.	1
10.	**Topic 10. Ethical and legal issues of abortion, transplantation, use of stem cells, donation. Euthanasia. Surrogacy.** 1) Bioethical aspects and biosafety of research work: experiment and clinical research. 2) Ethical and legal issues of transplantation, genetic engineering technologies, the use of stem cells, cloning of organs and tissues, donation. 3) Basics of biotic problems of pain, suffering, rehabilitation and euthanasia.	1
Total		**7,5**

4.2. Seminar plan

№ n \ n	Topics of seminars	Number of hours

Block 1. Basic principles of formation of safety of health and life in modern society		
1.	**Topic 1.** Theoretical foundations of life safety. Principles and methods of ensuring the safety of human life. Fundamentals of life safety management. System analysis of life safety. Legal security of human life.	2
2.	**Topic 2.** Physiological, psychological and social foundations of life safety of modern man. Functional systems of the human body in ensuring its safety. Protective functions of the human body. The role of receptors and analyzers of the human body in the assessment of factors of the system "man - the environment." Psychophysiological state of the organism.	2
3.	**Topic 3.** Negative environmental factors and their impact on human health. Classification and characteristics of the human environment. Classification and characterization of negative factors of the human environment. Physical negative factors. Negative factors of energy origin. Chemical negative factors. Biological anthropogenic negative factors. Psychophysical negative factors. Social dangers.	1
4.	**Topic 4**. Valeological and sinological principles of forming the safety of human health and life. Spiritual, mental, physical, social aspects of human health. Valeology and sanology, definitions, essence and subject of their study. Indicators of individual human health. Factors that ensure the stability of health. Risk factors and risk groups.	1
5.	**Topic 5.** Bad habits and the associated danger to human life. Division of society by level and source of wealth, the presence or absence of private property. Under such circumstances, the forms and increase sharply the size of social deviations (crime, suicide, drug addiction, prostitution, etc.). These and many other forms of perverted behavior in the face of the decline of the social control system have become threatening to society. The mechanism of harmful effects on the human body of alcohol, smoking and drugs. Threat to personal and public life in their use. Methods of combating bad habits.	1
6.	**Topic 6.** Food safety as a component of safe human life. Nutrition with the optimal ratio of nutrients is considered balanced. General ideas about metabolism and energy. Physiological features of the human body should be considered taking into account its interaction with the environment.	1
7.	**Topic 7.** Dangerous and life-threatening hazards in the life of a doctor. The list of occupational hazards in the performance of functional duties of the doctor. Rules of industrial sanitation, anti-epidemic regime and personal hygiene of employees of disinfection units and units. Dangerous infectious diseases in the practice of a medical worker. The concept of dangerous infectious diseases. HIV and AIDS in the doctor's practice.	1
Block 2. Fundamentals of bioethics and biosafety		
8.	**Topic 8.** History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine. Bioethics: subject, purpose and tasks in the health care system. History of professional medical ethics, nooethics. History of bioethics. Theoretical foundations of bioethics. Basic rules of bioethics and biosafety. Relationships between healthcare professionals, the patient and his family.	2
9.	**Topic 9.** Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies. Ethical bases of biomedical research implementation. Legal bases of realization of biomedical researches of the person and animals. The concept of biosafety and risk of biomedical technologies. International documents on bioethics and human rights. Bioethics committees, history of creation, methods of organization, models, rights and responsibilities, prospects of activity.	2
10.	**Topic 10.** Ethical and legal issues of abortion, transplantology, stem cell use, donation. Euthanasia. Surrogacy. Bioethical aspects and biosafety of research work: experiment and clinical research. Ethical and legal issues of transplantation, genetic engineering technologies, the use of stem cells, cloning of organs and tissues, donation. Fundamentals of biotic problems of pain, suffering, rehabilitation and euthanasia.	2
Together		**15**

4.3. Tasks for independent work

There are two types of tasks for independent work of students. Tasks of a theoretical nature, which are not thoroughly considered within the lectures, are made for independent mastering by the student. They are a supplement to the lecture course. The student must study normative and literary sources and be ready to answer questions during seminars and tests. Tasks and tasks are of a practical nature.

Topics for self-study

№ n \ n	**The topic of practical classes**	**Number of hours**
1.	**Topic 1.** Theoretical foundations of life safety - as a category. (Definition of security. Security is absolute and relative. Life - as a process of existence and self-realization of the individual in the unity of his life needs and capabilities.)	2

2.	**Topic 2.** Physiological, psychological and social foundations of life safety of modern man. Physiological, psychological and social foundations of life safety of modern man. The human body in the environment. (Nervous system - a natural system of protection of human life from danger. The driving apparatus of man. Functional state. Correction of behavior. Reaction time. Conditioned and unconditioned reflexes. Characteristics of analyzers.)	2
3.	**Topic 3.** Negative environmental factors and their impact on human health. (Support systems human life in the environment of its existence. Conditions for a balanced safe existence of people, human rights, freedom, inviolability. Right to self-defense. Limit of self-defense).	2
4.	**Topic 4.** Valeological and sinological principles of forming the safety of human health and life. (Human needs: physiological, material and spiritual. Environment, its characteristics, optimal and acceptable parameters in terms of provision vital functions of the human body).	2
5.	**Topic 5.** Bad habits and the associated danger to human life. Under such circumstances, the forms and sizes of social deviations (crime, suicide, drug addiction, prostitution, etc.) increase sharply. These and many other forms of perverted behavior in the face of the decline of the social control system have become threatening to society. The mechanism of harmful effects on the human body of alcohol, smoking and drugs. Threat to personal and public life in their use. Methods of combating bad habits.	2
6.	**Topic 6.** Food safety as a component of safe human life. Improper nutrition leads to many diseases due to reduced protective properties of the body, disrupts metabolism, leads to premature aging, reduced efficiency, can contribute to many diseases, including infectious, because the weakened body is sensitive to adverse effects. Overeating, especially in combination with mental stress, sedentary lifestyle, alcohol consumption and smoking, can lead to many diseases.	2
7.	**Topic 7.** Dangerous and life-threatening infectious diseases in the practice of health care. Occupational hazards in the life of the caviar. Under the current socio-economic conditions, occupational morbidity has increased in all sectors of production, working and leisure conditions have deteriorated, leading to deteriorating workers' health, an increase in accidents and disability, including from infectious diseases. Healthcare workers have a high probability and risk of contracting infectious diseases. The leading harmful factor that affects the health of medical staff is biological, the action of which, unlike others (physical, chemical, etc.), ie the less experience, the higher the incidence.	2
8.	**Topic 8.** History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine. Bioethics: subject, purpose and tasks in the health care system. History of professional medical ethics, nooethics. History of bioethics. Theoretical foundations of bioethics. Basic rules of bioethics and biosafety. The relationship between health care providers, the patient and his family.	3
9.	**Topic 9.** Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies. Ethical bases of biomedical research implementation. Legal bases of realization of biomedical researches of the person and animals. The concept of biosafety and risk of biomedical technologies. International documents on bioethics and human rights. Bioethics committees, history of creation, methods of organization, models, rights and responsibilities, prospects of activity.	3
10.	**Topic 10.** Ethical and legal issues of abortion, transplantation, use of stem cells, donation. Euthanasia. Surrogacy. Bioethical aspects and biosafety of research work: experiment and clinical research. Ethical and legal issues of transplantation, genetic engineering technologies, the use of stem cells, cloning of organs and tissues, donation. Fundamentals of biotic problems of pain, suffering, rehabilitation and euthanasia.	
Together		**20**

4.4. Ensuring the educational process

Lectures are provided with technical support:
- computer
- projection screen
- multimedia projector
- presentation programs (lectures)

5. Final control

List of questions for the final control of knowledge (differentiated test)

1. Theoretical foundations of life safety.
2. Classification of hazards.
3. Principles and methods of ensuring the safety of human life.
4. Principles and methods of ensuring the safety of human life.

5. Physiological and psychological factors of safety of life of modern man.
6. Factors that ensure human health.
7. Functional systems of the human body in ensuring its safety.
8. Negative environmental factors and their impact on human health.
9. The external environment and the environment of human life.
10. Classification characteristics of negative factors of the human environment.
11. Valeological and sanological principles of safety of human health and life.
12. Human health as a medical-biological and social category.
13. Factors that ensure the stability of health.
14. Risk factors and risk groups.
15. Bad habits and the associated danger of human life.
16. Mechanisms of harmful effects on the human body of alcohol, tobacco and drugs.
17. Methods of combating bad habits.
18. Safety of the disease as a component of safe human life.
19. General ideas about metabolism and energy.
20. Dangerous and life-threatening infectious diseases in the practice of a medical worker.
21. Occupational hazards in the life of a doctor.
22. Occupational hazards in the performance of functional duties of a physician.
23. Rules of industrial sanitation, anti-epidemic regime and personal hygiene of employees of disinfection institutions and departments.
24. Dangerous infectious diseases in the practice of a medical worker.
25. The concept of dangerous infectious diseases.
26. HIV and AIDS in the practice of medicine.
27. History of bioethics.
28. Theoretical foundations of bioethics.
29. Bioethics and the formation of the national health care system in Ukraine.
30. Legal basis for biometric research.
31. The concept of biosafety and risk.
32. The concept of cloning of organs and tissues.
33. The concept of genetic engineering technologies.
34. Ethical and legal issues of abortion.
35. Ethical and legal issues of transplantation.
36. Ethical and legal issues of stem cell use.
37. Ethical and legal issues of donation.
38. Euthanasia.
39. Surrogacy.
40. Bioethics: subject, purpose and objectives in the health care system.
41. Theoretical foundations of bioethics. Basic rules of bioethics and biosafety.
42. Relationships between healthcare professionals, patients and their families.
43. Ethical foundations of biomedical research.
44. The concept of biosafety and risk of biomedical technologies.
45. International evidence on bioethics and human rights.
46. Biometric components, history of creation, models of organization, models, legal obligations, prospects.
47. Bioethical aspects and biosafety of research: experiment and clinical research.
48. Fundamentals of bioethical problems of pain.
49. Fundamentals of bioethical problems of suffering.
50. Fundamentals of bioethical problems of rehabilitation.
51. Fundamentals of bioethical problems of euthanasia.

"0" version of the credit card

Black Sea National University
named after Peter the Great
Educational qualification level - master
Area of knowledge: 22 "Health"
Specialty 222 "Medicine"

Academic discipline

"Life Safety; basics of bioethics and biosafety "

Option № 0

1. Basic concepts and their definitions in the safety of life. (Maximum number of points - 20).
2. Bioethics and the formation of the national health care system in Ukraine. (Maximum number of points - 20).
3. Medical and ethical problems of human and animal cloning. (Maximum number of points - 20).
4. Medical-ethical and legal assessment of artificial abortion. (Maximum number of points - 20).

Approved at the meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № ___ dated _____ 2021

The head of the department is Professor Zyuzin V.O.
Examiner Ph. D. Muntian L.Ya.

Examples of situational problems and tests to be solved in practical classes

Tests:

1. Protection of the population from the consequences of emergencies:
a) training of the population with CO;
b) informing the population about the occurrence of emergencies and the development of the situation;
c) radiation protection;
d) chemical protection;
e) antibacterial protection.
2. The main ways to protect the population in an emergency are:
a) carrying out evacuation measures;
b) shelter of people in protective structures;
c) use of personal protective equipment;
d) the use of medical prophylaxis.
3. Complex of protection of the population requirements:
a) providing the population with personal protective equipment;
b) assessment of the situation, choice of methods and modes of protection;
c) organization of chemical and bacteriological control;
d) control of the level of exposure and contamination of personnel.
4. Personal protective equipment:
a) respiratory protection;
b) skin protection products;
c) medical personal protective equipment.

Examples of situational problems

1) Principles on which the protection of the population is based.
2) Distribution of cities by groups of importance of measures to protect the population.
3) Categories that are established for enterprises and organizations for the protection of the population.

6. Evaluation criteria and diagnostic tools for learning outcomes

Forms of control - 1) control of current performance at each practical lesson; 2) periodic academic certification as a result of the accumulation of current grades; 3) final lesson in the discipline.

Methods of control - 1) oral examination on the materials of topics and sections; 2) programmable machine and machine-free control; 3) control of solving situational, typical and atypical problems.

In accordance with the requirements of the regulations of the educational process for the successful acquisition of knowledge by students and their objective assessment is carried out:

- systematic current control of knowledge during seminars in the form of selective oral examination and test tasks, preparation of reports on the topic of the lesson, additions to reports, participation in discussions, presentation of independent tasks;

- final control over the block, organized in the form of a standardized survey on theoretical issues, students write written test tasks, practical tasks for meaningful blocks.

- assessment of the level of performance of individual work is carried out on the basis of checking the content of work and its protection in the form of a report, abstract. The individual task is checked for compliance with the design in accordance with the requirements, as well as for completeness, thoroughness of the material, the presence of interesting facts and examples, conclusions.

Distribution of points received by students

The general assessment of the student's educational activity in each class is comprehensive and is stated at the final stage of the class in the journal of attendance and student performance **in the form of assessments in university scores that correspond to ECTS scores.**

The maximum number of points assigned by students when studying the discipline - 200 points, including for current educational activities (PND) - 120 points (sum of points for PND and for independent work of the student), according to the results of final control (difzaliku) - 80 points.

The minimum number of points that a student must score when studying the discipline is 120 points, of which for IPA - 70 points, for difzalika - 50 points.

Accordingly, the maximum score for each lesson can be 12 points, the minimum - 7 points.

Assessment of student performance

Current educational activity	Scores
Topic 1	12
Topic 2	12
Topic 3	12
Topic 4	12
Topic 5	12
Topic 6	12
Topic 7	12
Topic 8	12
Topic 9	12
Topic 10	12
Together	**120**
Number of points on the test	**80**
The total amount of points for the discipline	**200**

Criteria for assessing knowledge

A grade of 12 points in a practical lesson and 71-80 points in a test (A on the ECTS scale and 5 on the national scale) a student's answer is evaluated if he demonstrates deep knowledge of all theoretical positions and ability to apply theoretical material for practical analysis and there are no inaccuracies.

Score of 9 points in the practical lesson and 61 - 70 points in the test (B and C on the ECTS scale and 4 on the national scale) the answer is evaluated if it shows knowledge of all theoretical principles, ability to apply them in practice, but some fundamental inaccuracies are allowed.

Score of 6 points in the practical lesson and 50 - 60 points in the test (D and E on the ECTS scale and 3 on the national scale) the student's answer is evaluated provided that he knows the main theoretical principles and can use them in practice.

7. Recommended sources of information

Basic.

Block 1. "Life safety"

1. Life safety: a textbook. / [O.I. Zaporozhets, BD Khalmuradov, VI Primenko et al.] - K .: "Center for Educational Literature", 2013. - 448 p.

2. Safety of life [Text]: textbook. way. / SO Kovzhoga, OD Malko, AM Polezhaev; Nat. University "Law Academy of Ukraine named after Ya. Mudry". - X.: Право, 2012. -224 с.

3. Safety of life: Textbook. manual / Piskunova LE, Prilipko VA, Zubok TO // Series: Alma Mater - K .: 2012. - 224p.

4. Safety of life: Textbook / VG Tsapko, DI Mazorenko, Yu.S. Skoblo, L.M. Tishchenko; for order. V.G. A stain. - K .: Знання, 2008. - 397 с.

5. Safety of life: Textbook / VV Berezutsky, L.A. Vaskovets, NP Vershinina and others; For order. V.V. Berezutsky. - X .: Fact, 2005. - 384 p.
6. Life safety. Teaching. Manual / Yu.S. Skoblo, TB Sokolovskaya, DI Mazorenko, LM Tishchenko, MM Troyanov. - K .: Кондор, 2003. - 421 с.
7. Vekovshinina SV, Kulinichenko VL Bioethics: beginnings and
grounds (Philosophical and methodological analysis). - K .: Сфера, 2002. - 162 с.
8. Hygiene and labor protection of medical workers. Textbook / Ed. V.F. Москаленка, О.П. Yavorovsky. - K .: "Медицина", 2009. - С.6-56.
9. Dzhigirey B.C. Life Safety. Teaching. manual / B.C. Dzhigirey, VI Zhidetsky. - Lviv .: poster. - 2000. - 255 p.
10. Zhelibo EP Life safety: textbook. manual / E.P. Zhelibo, NM Zaverukha, VV Zatsarny. - K .: Каравела. 2002. - 327 p.

Block 2. "Fundamentals of bioethics and biosafety"

1. Bioethics / Translated from Italian by V.Y. Shovkun: Textbook. - Lviv: LOBF Publishing House "Medicine and Law", 2007, 672p.
2. Bioethics: Textbook. for students. higher honey. textbook lock IV level of accreditation / V.M. Zaporozhyan, ML Aryaev. - K .: Здоров'я, 2005. - 288 с. - Bibliogr .: p. 288. - ISBN 5 311-01392-3.
3. Zaporozhyan VN Bioethics and biosafety, textbook / VN Zaporozhyan, NL Aryaev. - Kyiv Health. -2013. - 454с
4. Vozianov OF Clinical trials of stem cells: the beginning of regenerative and restorative medicine / OF Vozianov, GV Yelskaya, OL Kukharchuk // Health of Ukraine. - 2008. - № 12 (193). - С 62-63.
5. Zaporozhyan VM Bioethics: Textbook / VM Zaporozhyan, ML Aryaev. - K .: Health, 2005.-288 p.
6. Zaporozhyan VN Bioethics: Textbook / VN Zaporozhyan, NL Aryaev - Odessa: Odessa Medical University, 2005. - 295 p.
7. Zaporozhyan VN The path to nooethics / VN Zaporozhyan. - Одесса: Одесский медуниверситет, 2008. - 284 с.
8. Luban-Plozza B. Therapeutic union of doctor and patient / B. Luban-Plozza, V. Zaporozhyan, N. Aryaev. - K .: АДЕФ - Украйна, 2001. - 292 с
9. Potter VR, Bioethics. A bridge to the future. Kiev, 2002. - 309 p.

Auxiliary

Block 1. "Life safety"

1. The Constitution of Ukraine. The basic law.
2. Law of Ukraine "On Ensuring Sanitary and Epidemic Welfare of the Population" № 4004-XII of 24.02.94.
3. Fundamentals of the legislation of Ukraine on health care № 2802-XII of 19.11.92.
4. Law of Ukraine "On protection of man from the effects of ionizing radiation" № 15/98-VR of 14.01.1998.
5. Code of Civil Protection of Ukraine № 5403-VI dated 02.10.2012.
6. Decree of the President of Ukraine № 643/2001 "National program to combat tuberculosis".
7. On health care: Law of Ukraine. - K., 1992.
8. Law of Ukraine "On the legal regime of martial law". - K. Government Courier, 14.06.2000.-№107.
9. Law of Ukraine "On protection of humans from infectious diseases". - K. 06.04.2000.№1645-111.
10. Law of Ukraine "On the zone of ecological emergency". - K. 13.07.2000.-№1908- III.
11. Apanasenko GL Valeology as a science (Lecture for cadet doctors). - K., 2001. 23 p.
12. Life safety, basics of labor protection: textbook. way. / О.П. Yavorovsky, VM Shevtsova, VI Zenkin and others; for general ed OP Yavorovsky. - K .: ВСВ "Медицина", 2015.-288 с.
13. Order of the State Labor Inspectorate of Ukraine "List of works with increased danger" № 15 from 26.01.05.
14. Resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure for classification of emergencies by their levels" № 368 of 24.03.04
15. Radiation safety standards of Ukraine (NRBU-97). - Kyiv: Department of Printing of the Ukrainian Center for State Sanitary Supervision of the Ministry of Health of Ukraine, 1998. - 125 p.
16. Domaretsky, VA Ecology of food products [Text]: production and practical edition / VA Domaretsky, TP Zlatev. - K .: Урожай, 1993. - 190 с.
17. Smolyar VI Nutrition in terms of radionuclide contamination. - K .: Health: Ukr. red cross, 1991. - 32 p.

18. Khoruzhaya TA Environmental hazard assessment. / TA Khoruzhaya - M .: "Book service", 2002. - 208 p.
19. Kornienko O.B. Life safety and maintenance of psychosomatic health of youth: Monograph.-K .: "Kyiv University", 2004.-264 p.
20. Dementiy LV, Yusina AL. Ensuring the safety of life: Textbook. - Kramatorsk: DGMA, 2008. - 300 p.
21. Kazin EM, Blinova MG, Litvinova MA Fundamentals of individual human health: Introduction to general and applied valeology: Textbook. allowance. - M .: VLADOS, 2000.- 192 p.
22. Pistun IP, Kelman II, Velkovsky EK Life safety: A textbook. - Lviv: Afisha, 2007. - 336 p.

Block 2. "Fundamentals of bioethics and biosafety"

1. Anthology of Bioethics / [Ed. YI Kundiev]. - Lviv .: BAK, 2003. - 592 p.
2. Bazanov PA Surrogacy - blah or a way out of the impasse? / P.A. Bazanov // Women's Health. - 2006. - №1. - P. 74.
3. Bioethics. Textbook / [Under. ed. PV Lopatina], 4th ed., Reworked. and ext. - M .: GEOTAR Medicine, 2010. - 272 p.
4. Biomedical ethics / ed. VI Pokrovsky. - M .: Медицина, 1997.— 224 с.
5. Bioethics: principles, rules, problems / ed. BG Yudin. - M .: Медицина, 1998. —225 с.
6. Bodnar GV Palliative medical care / GV Bodnar, IS Vitenko, O. Yu. Popovych: Donetsk, 2003. - 110 p.
7. Vekovshinina SV. Bioethics: principles and foundations (philosophical and methodological analysis) / C.B. Vekovshinina, VL Kulinichenko. - K.: Сфера, 2002. -152 с.
8. Volosovets OP Tasks in bioethics and medical deontology for pediatricians / OP Volosovets. Volosovets, NV Nagornaya and others // Donetsk. - 2004. - 52p.
9. Zavaluk A.Kh. Ethical and legal aspects of medical activity in Ukraine / A.Kh. Zavaliuk, GH Kryvda, IO Yukhimets. - Odessa, 2008. - 191 p.
10. Zaporozhyan VN Nooethics in the ethical code of medicine of the XXI century // VN Zaporozhyan. - O: ОНМедУ, 2011. - 168 с.
11. Zaporozhyan VM Nooethics as a new direction of socio-humanitarian culture and philosophy / VM Zaporozhyan // Integrative Anthropology. - 2005. — № 1-2 (5-6). —С 3-10.
12. Zgrechcha E. Bioethics: textbook / E. Zgrechcha, A. J. Spaniolo, ML Pietro;
lane. from Italian. V.J. Shovkun. - Lviv .: Medicine and Law, 2007. - 672 p.
13. Ivanov VI Ethical aspects of human genome research in gene therapy / VI Ivanov // Itogi Nauki i Tekhniki. The human genome. - M .: ВИНИТИ, 1994. —С. 149-157.
14. Kapinus OS Euthanasia as a social and legal phenomenon: a monograph / OS Capinus. - M .: Буквоед, 2006. - 153 с.
15. Human cloning. Questions of ethics. - Paris: UNESCO, 2004. - 20 p.
16. Campbell A. Medical ethics / A. Campbell, G. Gillette, G. Jones [Ed. YM Lopukhina, BG Yudina]. - M .: GEOTAR, 2006. - 128 p.
17. Mishatkina TV Biomedical ethics: textbook. aid./ T.V. Mishatkina, SD Denisov, Ya.S. Яскевич. - Minsk: Tetra Sisteme, 2003. - 320 p.
18. Textbook of Medical Ethics / Translated from the 2nd English edition in 2009 edited by Academician of the Academy of Medical Sciences of Ukraine, Chairman of the Committee on Medical Ethics of the All-Ukrainian Medical Society (VULT) Lubomyr PYROGA.
19. Guide to medical bioethics: textbook. Help. / [Edited by YM Lopukhin; lane. with English TV Bulgina] .- M .: GEOTAR, 2006.- 128 p.
20. Sgrechcha E. Bioethics. Textbook 13. Sgrechcha, W. Tambone. -M .: Biblical and Theological Institute, 2002. - 451 p.
21. Stem cells / VN Zaporozhyan, Yu.I. Bajora. - O .: Odessa. honey. University, 2004. - 228 p .: ill. - Bibliogr .: p. 205-223. - ISBN 966-7733-54-8.
22. Transplantology 2010: results and prospects / [Ed. SV Gauthier]. - M.: Триада, 2011.-461 с.
23. Requirements of bioethics: Medicine between hope and fear / [Ed. F. Brisse-Vigno]. - К .: Сфера, 1999. - 248 с.
24. Khrustalev OM From ethics to bioethics. Учебник для вузов / O.M. Хрусталев. - M .: Феникс, 2010. - 446 с.
25. Shamov IA Bioethics. Textbook. - M .: Медицина, 2009. - 369 с.
26. Yarovinsky M.Ya. "Medical ethics" (bioethics) ./ M. Ya. Yarovinsky. - M .: Medicine, 2006. - 448 p.

Information Internet resources

1. Official Internet - Representation of the President of Ukraine http: //www.president.gov.ua.
2. The Verkhovna Rada of Ukraine http://www.rada.gov.ua/.
3. The Cabinet of Ministers http://www.kinu.gov.ua/.
4. Ministry of Education and Science of Ukraine http://www.mon.gov.ua/.
5. Ministry of Ecology and Natural Resources of Ukraine http://www.menr.gov.ua/.
6. State Service of Ukraine for Emergencies http://www.dsns.gov.ua/.
7. National Security and Defense Council of Ukraine http://www.rnbo.gov.ua/.
8. Permanent Mission of Ukraine to the United Nations http://ukraineun.org/.
9. North Atlantic Treaty Organization (NATO) http://www.nato.int/.
10. World Health Organization http://www.who.int/en/.
11. http://www.bioethics.net
12. http://www.bioethics.as.niyu.edu
13. http://www.bioethics.ca
14. http://www.bioethics.ru

"Occupational safety in the industry"

2. Purpose, tasks and results of studying the discipline

. **The purpose** of teaching the discipline "Occupational safety in the industry" is the formation of future professionals' knowledge, skills and competencies, as well as education of safety culture to ensure effective management of occupational safety in the medical field, creating favorable working environment and occupational safety in accordance with applicable laws and regulations -legal acts for the implementation of the principle of priority protection of life and health of medical workers.

The objectives of the study of the discipline "Occupational Safety in the industry" is to ensure the preservation of life, health and efficiency of medical workers in industrial conditions through the use of a set of legislative, organizational, engineering, sanitary, preventive and other measures, moral education. ethical values aimed at the prevention of occupational injuries and the emergence of occupational and industrial diseases.

Prerequisites for studying the discipline

- *integrated*: - Ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care or in the learning process, which involves research and / or innovation, and is characterized by complexity and uncertainty of conditions and requirements. personality to the organization of an integrated humanitarian educational space and the formation of a culture of security.

- *general:* - Ability to apply knowledge in practical situations. Ability to exercise self-regulation, lead a healthy lifestyle, ability to adapt and act in a new situation. Ability to choose a communication strategy; ability to work in a team; interpersonal skills. Skills in the use of information and communication technologies. Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained. Determination and persistence in solving tasks and fulfilling responsibilities. Ability to act socially, responsibly and with public consciousness. The desire to preserve the environment.

- *special (professional, subject):* - Ability to carry out sanitary and hygienic and preventive measures. Ability to plan preventive and anti-epidemic measures for infectious diseases. Ability to process social, economic and medical information. Ability to conduct epidemiological and medical-statistical studies of public health. Ability to assess the impact of the environment on the health of the population (individual, family, population). Ability to assess the impact of socio-economic and biological determinants on the health of the individual, family, population.

Expected learning outcomes. As a result of studying the discipline, students have:

1. Ability to carry out sanitary-hygienic and preventive measures of labor protection of medical workers.

2. Ability to assess occupational risks.

3. Ability to plan preventive and anti-epidemic measures for occupational, occupational and nosocomial diseases.

4. Ability to carry out preventive and anti-epidemic measures for occupational, industrial and nosocomial diseases.

5. Ability to process social, economic and medical information.

6. Ability to conduct epidemiological and medical-statistical studies of public health.

7. Ability to assess the impact of the environment on the health of the population (individual, family, population).

8. Ability to assess the impact of socio-economic and biological determinants on the health of the individual, family, population.

9. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control.

10. To be aware of and guided in their activities by civil rights, freedoms and responsibilities, principles of safety culture, to raise the general educational and cultural level.

11. To organize the necessary level of individual safety (own and persons cared for) in case of typical dangerous situations in the individual field of activity.

Learning outcomes for the discipline - a set of knowledge, skills, abilities, other forms of competence acquired by a person in the learning process in accordance with the standard of higher education, which can be identified, quantified and measured.

According to higher education standards, students must:

Know:

- The relationship between the health of workers and the impact of harmful and dangerous factors of production.
- Requirements of legislative and normative acts on labor protection of medical workers.
- Requirements for occupational safety of medical staff in modern conditions.
- Basic principles and approaches (strategies) to ensure safety in treatment and prevention facilities.

Be able:

- To draw conclusions about the presence of harmful and dangerous production factors on the body of medical workers.
- To substantiate carrying out of preventive measures according to bases of the current legislation of Ukraine.
- Plan activities to maintain a healthy lifestyle, personal hygiene and implement them in health care practices.
- Coordinate plans for preventive measures with plans for the development of territorial, administrative and production units.
- Analyze and evaluate situations dangerous to life, health and professional activity and make decisions on taking urgent measures.

The developed program corresponds to the **educational-professional program (OPP)** and is focused on the formation of **competencies:**

general (GC) - GC1-GC10 EPP:

- Ability to apply knowledge in practical situations;

- Knowledge and understanding of the subject area and understanding of the profession;
- Ability to exercise self-regulation, lead a healthy lifestyle, the ability to adapt and act in a new situation.
- Ability to choose a communication strategy; ability to work in a team; interpersonal skills
- Ability to communicate in the native language both orally and in writing; ability to communicate in a second language
- Skills in the use of information and communication technologies
- Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained.
- Ability to apply knowledge in practical situations.
- Ability to evaluate and ensure the quality of work performed.
- Definiteness and perseverance in terms of tasks and responsibilities
- Ability to act socially responsible and public consciousness
- The desire to preserve the environment.

professional (FPC) - PC19 EPP:

- Ability to process state, social, economic and medical information.

According to the educational-professional program, the expected **program learning outcomes (PLO) include the skills of PLO4, PLO10 EPP:**

- Know the types and methods of adaptation, principles of action in a new situation. To be able to apply means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity. Establish appropriate connections to achieve results. Be responsible for the timely use of self-regulatory methods.
- Know the problems of environmental protection and ways to preserve it. Be able to form requirements for themselves and others to preserve the environment. Make proposals to the relevant authorities and institutions on measures to preserve and protect the environment. Be responsible for the implementation of environmental protection measures within its competence.

3. The program of the discipline:

The organization of the educational process is carried out according to the European credit transfer and accumulation system (ECTS). The curriculum is coordinated on two sides

Block 1 "Occupational safety in the medical field".

Content module 1. General issues of labor protection.

Topic 1. Legal and organizational foundations of labor protection. Basic terms and definitions in the field of labor protection. Legal bases of labor protection. Legislation of Ukraine on labor protection, main provisions. International documents and international cooperation in the field of labor protection. Occupational safety as an integral part of social responsibility. State management of labor protection, state supervision and public control over labor protection. State Labor Service of Ukraine, its structure and functions.

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

Collective and labor agreements as a reflection of labor protection legislation. Concluding an employment agreement according to the specifics of the types of work and the specifics of functional responsibilities. Regulation of labor protection issues in the collective agreement.

Liability of officials and employees for violations of labor protection legislation. (practical lesson, lecture, VTS).

Topic 2. Organization of labor protection in medical institutions and institutions of higher medical education. Sectoral programs to improve safety, occupational health and the working environment. Regulations on the organization of labor protection management system in the industry. Order of the Ministry of Health №268 of 30.09.94 "On the labor protection system of the Ministry of Health". Structure, main functions and tasks of labor protection management in medical institutions. The labor protection service of the medical and preventive institution (PHC), its structure, number, main tasks and functions. Rights and responsibilities of employees of the labor protection service. Commission on labor protection in medical institutions, main tasks and rights. Offices of industrial safety and labor protection, main tasks and directions of work. Planning of labor protection measures. Identification, assessment and reduction of risks of dangerous events, quality management and formation of safety culture. Accounting and analysis of labor protection indicators. Plans for localization and elimination of emergencies and accidents. Principles of organization, types of training and testing of knowledge on occupational safety. Occupational safety briefings, their types. Stimulation of labor protection. Socio-economic effect of labor protection of medical workers. Order of the Ministry of Education and Science of Ukraine № 563 of 01.08.2001 “On approval of the Regulations on the organization of work on labor protection of participants in the educational process in institutions and educational institutions” (practical lesson, VTS).

Topic 3. Occupational hygiene and physiology, importance for creating safe working conditions. Occupational hygiene and physiology - definition, purpose, tasks, research methods. Classification of hazardous and harmful production factors. The main physiological features of physical and mental work. Physiological changes that occur in the organs and systems of the human body during work. Human performance, dynamics and reasons for its change during the working day. Physiological essence of fatigue, existing theories and modern understanding of the mechanism of its occurrence. Ways to prevent fatigue. Methods of developing rational modes of work and rest. (practical lesson, lecture, VTS).

Block 2. Features of working conditions in the medical field

Topic 4. Occupational hazards in the performance of functional duties of health workers. Classification of work of medical workers. Psychophysiological harmful and dangerous factors of the production environment and their impact on the health of health workers. Physical hazards and hazards of the work environment and their impact on the health of healthcare workers. Chemical hazards and hazards of the production environment and their impact on the health of healthcare workers. Biologically harmful and dangerous factors of the production environment and their impact on the health of medical workers. (Practical lesson, lecture, VTS).

Topic 5. Hygienic characteristics of working conditions and health status of medical workers. Hygienic features of working conditions and health status of doctors of different profiles (surgical, therapeutic, dental, etc.). Features of occupational and industrial morbidity of medical workers. Basic methods and criteria of sanitary and hygienic assessment of working conditions of medical workers. The concept of severity, tension, harmfulness and danger of work. Methodology for assessing the work of health workers according to the criteria of "Hygienic classification of labor on the indicators of harmfulness and danger of factors of the working environment, severity and intensity of the labor process", approved by the Ministry of Health of Ukraine 08.04.2014 № 248. Certification of jobs under working conditions. Purpose, main tasks and content of certification.

Organization of works and the procedure for attestation of jobs. Map of working conditions. (Practical lesson, VTS).

Topic 6. Accidents and accidents in hospitals, their investigation and accounting. The main content of the Resolutions of the Cabinet of Ministers of Ukraine № 1232 dated 30.11.2011 "Some issues of investigation and accounting of accidents, occupational diseases and accidents at work", №270 dated 22.03.01 "On approval of the Procedure for investigation and accounting of non-productive accidents "And № 1662 of November 8, 2000" On approval of the list of occupational diseases ". Methods of investigation and accounting of accidents at work. Methods of investigation and accounting of non-productive accidents. Injuries, acute and chronic occupational diseases and poisonings in medicine, methods of their accounting and investigation. Measures to prevent accidents, injuries and occupational diseases of medical workers.

Social Insurance Fund for Accidents at Work and Occupational Diseases. Compensation to the victim at work. (practical lesson, VTS).

Block 3. Special issues of labor protection in the medical field

Topic 7. Occupational health and safety in medical institutions. Hygienic requirements for the design and construction of treatment and prevention facilities. Safety requirements during the operation of basic medical equipment. Measures to reduce the physical and mental stress of health workers. Scientific organization of work in the hospital. Hygienic education and health education. Measures to reduce the adverse effects of physical factors on the body of health professionals. Measures to reduce the adverse effects of chemical factors on the body of health professionals. Measures to prevent the harmful effects of biological factors. Sanitary and anti-epidemic regime of the hospital. Requirements for personal protective equipment and work clothes of medical workers. (Practical lesson, lecture, VTS).

Topic 8. Labor protection in some structural units of hospitals and higher medical educational institutions. Occupational safety of medical personnel in separate structural subdivisions of the hospital (surgical, dental, infectious, physiotherapeutic, pathological, psychiatric and others), as well as when working with medical equipment. Fundamentals of labor protection of personnel in the pharmaceutical industry. The main regulations governing these issues.

Occupational safety in higher medical educational institutions.

Labor protection of women, minors, the elderly and the disabled, the main regulations governing these issues. Medical examinations of medical workers. The main provisions of the Order of the Ministry of Health of Ukraine №246 of 21.05.2007 "On approval of the Procedure for conducting medical examinations of certain categories of workers." (Practical lesson, VTS).

Topic 9. Dangerous infectious diseases in the work of medical workers. Prevention of nosocomial infections as a component of labor protection in medicine. The concept of dangerous infectious diseases. HIV and AIDS in the doctor's practice. Possible ways of getting biological material from an HIV-infected medical worker. The concept of "industrial accident" and an emergency appeal to the AIDS Center / Institute of Infectious Diseases. The main provisions of the Law of Ukraine "On combating the spread of diseases caused by human immunodeficiency virus (HIV) and legal and social protection of people living with

HIV", Orders of the Ministry of Health of Ukraine № 955 from 05.11.2013 "Procedure for emergency post-exposure prevention of HIV infection employees in the performance of professional duties ", № 148 of 17.03.2015" On approval of the Procedure for confirming the connection between HIV infection and the performance of their professional duties by the employee ", № 955 of 05.11.2013" On approval of normative legal acts on protection against HIV infection in the performance of professional duties "and others.

Viral hepatitis, their potential danger to healthcare professionals. Prevention of hepatitis virus infection and immunoprophylaxis in contact with biological materials of a patient with hepatitis. Resolution of the Cabinet of Ministers of Ukraine № 637 of April 29, 2013 "On approval of the State target social program for prevention, diagnosis and treatment of viral hepatitis for the period up to 2016".

Tuberculosis and its prevalence in Ukraine and the world. Potential occupational hazards for healthcare professionals. Measures to prevent tuberculosis infection of medical workers. Laws of Ukraine "On Combating Tuberculosis", "On Approval of the National Targeted Social Program to Combat Tuberculosis for 2012-2016". (practical lesson, lecture, VTS).

Topic 10. Fundamentals of industrial safety of medical workers. General safety requirements for technological equipment and processes in the hospital. Electrical safety, safe operation of electrical equipment in the hospital. Fundamentals of fire safety. State fire supervision, the main regulations governing it. Design and operation of hospitals and medical equipment from the standpoint of fire safety. The main means and measures to ensure fire safety of the hospital. Fire alarm. Fire extinguishers. Staff actions during firefighting. Staff evacuation. Fire safety control. Training in the rules of fire safety of employees of the hospital. (Practical lesson, VTS).

The structure of the discipline "Occupational safety in the industry"

Names of content modules and topics	Number of hours			
	total	including		
		lectures	seminars	indep.work.
Block1. General issues of labor protection				
Topic 1. Legal and organizational foundations of labor protection	5	1	2	2
Topic 2. Organization of labor protection in medical institutions and institutions of higher medical education.	5	1	2	2
Topic 3. Occupational hygiene and physiology, importance for creating safe working conditions	5	1	2	2
Together for block 1.	15	3	6	6
Block 2. Features of working conditions in the medical field				
Topic 4. Occupational hazards in the performance of functional duties of health workers	4,5	1	2	2
Topic 5. Hygienic characteristics of working conditions and health status of medical workers	4,5	0,5	2	2

Topic 6. Accidents and accidents in hospitals, their investigation and accounting	3,5	0,5	1	2
Together for block 2	13	2	5	6
Block 3. Special issues of labor protection in the medical field				
Topic 7. Occupational health and safety in medical institutions	3,5	0,5	1	2
Topic 8. Occupational safety in some structural units of hospitals and higher medical educational institutions	3,5	0,5	1	2
Topic 9. Dangerous infectious diseases in the work of medical workers	3,5	0,5	1	2
Topic 10. Fundamentals of industrial safety of medical workers	4	1	1	2
Together for block 3	14,5	2,5	4	8
Total hours	45	7,5	15	20

4. The content of the discipline

4.1. Lecture plan

№	Lecture topic	Number of hours
	Content module 1. General issues of labor protection	
1	Legal and organizational bases of labor protection 1) The current state of labor protection in Ukraine and abroad. 2) Subjects and objects of labor protection. 3) Financing of labor protection.	2
2.	Occupational hygiene and physiology, importance for creating safe working conditions 1) Mandatory medical examinations of certain categories of employees. 2) Liability of officials and employees for violations of labor protection legislation. 3) Fundamentals of fire prevention.	2
	Змістовий модуль 2. Особливості умов праці в медичній галузі	
3.	Occupational hazards in the performance of the duties of health care workers 1) The role of the central nervous system in work. 2) Injury prevention, safety signs. 3) Instruction on labor protection.	1
	Content module 3. Special issues of labor protection in the medical field	
4	Occupational health and safety in medical institutions 1) Internship and admission of employees to independent work. 2) Occupational health of its importance. 3) Ensuring proper working conditions, building rules.	1
5.	Dangerous infectious diseases in the practice of a medical worker. 1) Observance of personal hygiene and industrial sanitation. 2) Prevention of infectious infection. 1) 3) Action plan in case of contact with infection and first aid.	1,5
	Total	7,5

4.2. Plan of practical classes

	Theme	Number of hours
	Content module 1. General issues of labor protection	
1.	Legal and organizational bases of labor protection. Application of requirements of legislative and regulatory documents for introduction of methods and means of system of labor protection of workers in medical institutions	2
2.	Organization of labor protection in medical institutions and institutions of higher medical education. Application of the basic forms of organization and management of labor protection of medical workers.	2
3.	Occupational hygiene and physiology. Identification of harmful and dangerous factors of the production environment and providing a hygienic assessment of the workplace of a medical worker	2
	Content module 2. Features of working conditions in the medical field	
4.	Occupational hazards in the performance of the duties of health care workers. Assessment of the organization of the workplace, furniture, medical equipment in the hospital.	2
5.	Hygienic characteristics of working conditions and health status of medical workers. Forecasting the possibility of occupational diseases, accidents, emergencies.	2
6.	Accidents and accidents in hospitals, their investigation and accounting. Carrying out certification of a workplace on indicators of weight, tension, harmfulness, danger of production process	1
	Content module 3. Special issues of labor protection in the medical field	
7.	Occupational health and safety in medical institutions. Development of a plan of measures to improve the working conditions of medical workers and control their effectiveness.	1
8.	Occupational safety in some structural units of hospitals and higher medical educational institutions. Organize fire and electrical safety measures	2
9.	1. Dangerous infectious diseases in the work of medical workers Monitoring compliance with the rules of personal hygiene and the use of personal protective equipment for medical workers. Investigation and accounting of accidents, acute and chronic occupational diseases, injuries in the medical field.	1
10.	Fundamentals of industrial safety of medical workers. Development of instructions on labor protection, conducting exercises on labor protection.	1
	Total	**15**

4.3. Tasks for independent work

№	**Topic**	**Number of hours**
	Block 1. General issues of labor protection	

1 2. 3. 4. 5.	Preparation for practical classes (theoretical training, development of practical skills) Online courses and online testing Independent elaboration of topics that are not included in the classroom plan Block 1 (list attached) Individual work Preparation for the final control work TOTAL	2 2 2 2 2 10
Block 2. Features of working conditions in the medical field		
1. 2. 3. 4. 5.	Preparation for practical classes (theoretical training, development of practical skills) Online courses and online testing Independent elaboration of topics that are not included in the classroom plan Block 1 (list attached) Individual work Preparation for the final test Разом:	1 1 1 1 1 5
Block 3. Special issues of labor protection in the medical field		
1 2. 3. 4. 5.	Preparation for practical classes (theoretical training, development of practical skills) Taking online courses and online tests Independent elaboration of topics that are not included in the classroom plan Block 1 (list attached) Individual work Preparation for the final test TOTAL	1 1 1 1 1 5
	Total	20

Important in the management of independent work of students is given to individual and group consultations, their purpose - to help students in the study of a particular issue, in the proper organization of independent work on the subject.

The success of preparation for practical classes and passing the test largely depends on the organization of independent work. To carry out independent work, students are recommended to get acquainted with the educational and methodical literature, the list of which is given in the list of recommended literature, as well as publications of periodicals. The recommended literature should be studied systematically, according to the list and in the following sequence:

a) to get acquainted with the content of each topic according to the curriculum;

b) to master educational material related to a specific topic;

c) answer the control questions of the relevant topic;

d) write down all unclear issues for consideration at the consultation.

When studying the training material it is necessary to use the reports of enterprises and other information holders, analyzing changes in indicators according to the methodology presented in textbooks.

According to the results of the control, students are graded in the journals of current performance. The final control of knowledge in the form of a test is carried out on control questions and tasks.

Topics of independent works

Block 1.

1. The main content of the Resolutions of the Cabinet of Ministers of Ukraine № 1232 of 30.11.2011 "Some issues of investigation and accounting of accidents, occupational diseases and accidents at work", №270 of 22.03.01 On approval of the Procedure for investigation and accounting of accidents non-productive nature ”and № 1662 of November 8, 2000“ On approval of the list of occupational diseases ”.

2. Methods of investigation and accounting of accidents at work.

3. Methods of investigation and accounting of non-productive accidents.

4. Injuries, acute and chronic occupational diseases and poisonings in medicine, methods of their accounting and investigation.

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

6. Social insurance fund against accidents at work and occupational diseases. Law of Ukraine "On Compulsory State Social Insurance against Accidents at Work and Occupational Diseases That Caused Disability." Compensation to the victim for you

Block 2.

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

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

3. Biologically harmful and dangerous factors of the production environment and their impact on the health of medical workers.

4. Hygienic features of working conditions and health status of doctors of different profiles (surgical, therapeutic, dental, etc.).

5. Features of professional and production-related morbidity of medical workers.

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

Block 3.

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

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

3. Fundamentals of fire safety. State fire supervision. Fire prevention during the design and operation of PHC and medical equipment.

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

5. The main means and measures to ensure fire safety of the production facility. Fire alarm. Fire extinguishers.

6. Actions of personnel in case of fire. Ensuring the safe evacuation of personnel. Ensuring and controlling the state of fire safety at production facilities. Training in fire safety rules for employees of hospitals.

Individual tasks

Selection and review of scientific literature on the subject of the program of the student's choice with the writing of an abstract and its public defense.

Selection and review of scientific literature on the subject of research work of the department with the preparation of a scientific report at a meeting of the SNT or at student conferences.

Experimental research on the topic of research work of the department with the publication of results in scientific journals.

Assessment of an individual task is carried out in accordance with the criteria and scores of a particular practical lesson.

Requirements for registration:

Students perform one of the proposed options for individual work. The document, which is handed over to the teacher, consists of:

- title letter, which indicates the name of the higher education institution and its subordination, the name of the department, topic, option number, name and initials of the author, the city where the university is located and the year of implementation;
- the main content of the work, which reflects the tasks set before the student;
- list of used sources.

Typical test tasks to be solved in practical classes:

1. Solve test tasks:

1. Primary fire extinguishing means are intended for (answer the theoretical question).

2. Choose the correct answer. **Primary fire extinguishers are used for:**

1) conducting fire prevention;
2) extinguishing fires at the initial stage of their development;
3) extinguishing fires from the beginning of their ignition to the end;
4) chemical inhibition of combustion reactions.

3. Social Accident Insurance Fund (answer the theoretical question).

4. Methods of research of occupational injuries (answer the theoretical question).

5. Dangers in the work of personal computer users and protection from them (answer the theoretical question).

6. Investigation and accounting of accidents, occupational diseases (answer the theoretical question).

7. Choose the correct answer. **The company is responsible for the correct and timely investigation of accidents:**

1) the head of the enterprise;
2) safety engineer;
3) the chairman of the trade union committee;
4) labor protection specialist.

8. Electromagnetic radiation of VDT (answer the theoretical question).

9. Responsibilities of the employer to investigate accidents at work (answer the theoretical question).

10. Specify the correct answer. **The condition of the object, in which the possibility of the occurrence and development of fire and the impact of dangerous factors of fire on people is excluded with the established probability, is called:**

1) fire prevention;
2) fire protection;
3) fire safety;
4) technical measures.

2. Explain the issues:

1. Programs to improve safety, occupational health and the working environment (answer the theoretical question).

.

4.4 Ensuring the educational process

To successfully complete the course it is enough to use literature sources that are in the libraries of the university and the city, the Internet, software - MS Word, Excel.

Students are also given the opportunity to use educational and scientific literature from the library of the department and medical institute of the Black Sea National University named after Petro Mohyla, as well as electronic textbooks, which are downloaded into the Moodle system.

5. Final control

In the 3rd semester - credit.

List of questions for the final control of the discipline "Occupational Health in"

Block 1. *General issues of labor protection.*

1. Basic terms and definitions in the field of labor protection: labor protection, working conditions
2. harmful production factor
3. dangerous production factor
4. safe working conditions
5. workplace
6. safety precautions.
7. Subjects and objects of labor protection.
8. The current state of labor protection in Ukraine and abroad.
9. General issues of labor protection in medicine.
10. Legal bases of labor protection (Constitution of Ukraine, Code of Labor Laws, Law of Ukraine “On Labor Protection”, etc.).
11. Regulations on labor protection (NPAOP): definitions, basic requirements and features. The structure of NPAOP. Register of NPAOP.
12. National standards of Ukraine on labor protection. System of labor safety standards (SSB). Sanitary, building norms, other national documents on labor protection.
13. Acts on labor protection, operating in the organization, their composition and structure. Instructions on labor protection. Development and approval of labor protection acts in force in the organization.

14. Liability of officials and employees for violations of labor protection legislation.

15. Social partnership as a principle of legislative and regulatory support of labor protection. Social dialogue in the European Union.

16. International norms of social responsibility. Standard SA 8000 "Social responsibility". International standard ISO 26000 "Guidelines for social responsibility".

17. Legislative basis of the European Union on labor protection. EU directives on labor protection. Framework Directive 89/391 / EC “On the introduction of measures to improve the safety and health of workers”.

18. Elements of the labor protection management system, international standard OHSAS 18001: 2007.

19. Labor standards of the International Labor Organization. ILO Conventions and Recommendations. The main ILO conventions in the field of labor protection.

20. International cooperation in the field of labor protection. The main areas of cooperation. United Nations. World Health Organization. International Atomic Energy Agency. International Labor Organization. European Union.

21. Labor protection as an integral part of social responsibility.

22. State management of labor protection, state supervision and public control over labor protection in Ukraine. Bodies of state supervision over labor protection, their main powers and rights. Public control over observance of the legislation on labor protection.

23. State Service of Ukraine for Labor, its structure and functions.

24. Risk-oriented approach in assessing the potential and real danger of the harmful effects of factors of the working environment on human health.

25. Identification, assessment and reduction of risks of dangerous events, quality management and formation of safety culture.

26. Collective and employment agreements as a reflection of labor protection legislation. Law of Ukraine “On Collective Bargaining Agreements” and its content. Order of the Ministry of Labor and Social Policy of Ukraine "On approval of the form of employment contract between employees and individuals". Concluding an employment agreement according to the specifics of the types of work and the specifics of functional responsibilities. Regulation of labor protection issues in the collective agreement. Hiring under a contract.

27. Liability of officials and employees for violations of labor protection legislation.

28. Sectoral programs to improve safety, occupational health and the working environment. Regulations on the organization of labor protection management system in the industry. Order of the Ministry of Health №268 of 30.09.94 "On the labor protection system of the Ministry of Health".

29. The structure, main functions and tasks of occupational safety management in medical institutions. The labor protection service of the medical and preventive institution (PHC), its structure, number, main tasks and functions. Rights and responsibilities of employees of the labor protection service.

30. Commission on labor protection in medical institutions, main tasks and rights. Offices of industrial safety and labor protection, main tasks and directions of work.

31. Planning of labor protection measures. Identification, assessment and reduction of risks of dangerous events, quality management and safety culture. Accounting and analysis of labor protection indicators. Plans for localization and elimination of emergencies and accidents.

32. Principles of organization, types of training and testing of knowledge on occupational safety. Occupational safety briefings, their types. Stimulation of labor protection.

33. Socio-economic effect of labor protection of medical workers.

34. Order of the Ministry of Education and Science of Ukraine № 563 of 01.08.2001 "On approval of the Regulations on the organization of work on labor protection of participants in the educational process in institutions and educational institutions".

35. Hygiene and physiology of work - definition, purpose, tasks, research methods.

36. Classification of hazardous and harmful production factors.

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

38. Ability to work, the dynamics and causes of its change during the working day.

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

40. Ways to prevent fatigue. Methods of developing rational modes of work and rest.

Block 2. Features of working conditions in the medical field

41. Classification of work of medical workers.

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

43. Physical harmful and dangerous factors of the working environment and their impact on the health of health workers.

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

45. Biologically harmful and dangerous factors of the production environment and their impact on the health of health workers.

46. Hygienic features of working conditions and health status of doctors of different profiles (surgical, therapeutic, dental, etc.).

47. Features of occupational and occupational morbidity of medical workers.

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

49. Methodology for evaluating the work of health workers according to the criteria of "Hygienic classification of labor on the indicators of harmfulness and danger of factors of the production environment, severity and intensity of the labor process", approved by the order of the Ministry of Health of Ukraine 08.04.2014 № 248.

50. Certification of jobs under working conditions. Purpose, main tasks and content of certification. Organization of works and the procedure for attestation of jobs. Map of working conditions.

51. The main content of the Resolutions of the Cabinet of Ministers of Ukraine № 1232 of 30.11.2011 "Some issues of investigation and accounting of accidents, occupational diseases and accidents at work", №270 of 22.03.01 "On approval of the Procedure for investigation and accounting of accidents non-productive nature "and № 1662 of November 8, 2000" On approval of the list of occupational diseases ".

52. Methods of investigation and accounting of accidents at work.

53. Methods of investigation and accounting of non-productive accidents.

54. Injuries, acute and chronic occupational diseases and poisonings in medicine, methods of their accounting and investigation.

55. Measures to prevent accidents, injuries and occupational diseases of health workers.

56. Social Insurance Fund for Accidents at Work and Occupational Diseases. Law of Ukraine “On Compulsory State Social Insurance against Accidents at Work and Occupational Accidentsdiseases that have caused disability ”. Compensation to the victim at work.

Block 3. Special issues of labor protection in the medical field.

57. Hygienic requirements for the design and construction of treatment and prevention facilities.

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

59. Measures to reduce physical and mental overload of health workers. Scientific organization of work in the hospital. Rational organization of the workplace and furniture. The main ways to prevent fatigue.

60. Measures to reduce the adverse effects of physical factors on the body of health professionals. Requirements for the microclimate.

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

62. Requirements for industrial lighting of medical workers' workplaces.

63. Requirements for ultraviolet radiation, electromagnetic fields of radio frequencies and laser radiation in the workplace of medical workers.

64. Requirements for video terminals and personal computers.

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

66. Measures to reduce the adverse effects of chemical factors on the body of health professionals. Ways to prevent air pollution of the working area with harmful chemicals.

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

68. Hygienic education and health education.

69. Requirements for personal protective equipment and work clothes of medical workers.

70. Organization of air exchange in the premises of the hospital, ventilation.

71. Occupational safety of medical personnel in separate structural subdivisions of the hospital (operating room, radiodiagnostic subdivisions, physiotherapy offices, pathology departments and morgues, etc.), the main normative documents regulating these issues.

72. Fundamentals of the organization of labor protection of personnel in the pharmaceutical industry.

73. Working hours for employees of health care facilities.

74. Occupational safety in higher medical educational institutions.

75. Guarantees of workers' rights to labor protection, benefits and compensation for difficult and harmful working conditions. Responsibilities of employees to comply with the requirements of regulations on labor protection.

76. Labor protection of women, minors, the elderly and the disabled, the main regulations governing these issues.

77. Medical examinations of medical workers. The main provisions of the Order of the Ministry of Health of Ukraine №246 of 21.05.2007 "On approval of the Procedure for medical examinations of certain categories of workers."

78. Prevention of nosocomial infections as a component of labor protection in medicine.

79. The concept of dangerous infectious diseases.

80. HIV and AIDS in the practice of medicine. Possible ways of getting biological material from an HIV-infected medical worker. The concept of "industrial accident" and an emergency appeal to the AIDS Center / Institute of Infectious Diseases.

81. The main provisions of the Law of Ukraine “On Combating the Spread of Diseases Caused by Human Immunodeficiency Virus (HIV) and Legal and Social Protection of People Living with HIV” and the Law of Ukraine on Approval of the National Targeted Social Program to Combat HIV / AIDS for 2014-2018 years № 1708-VII from 20.10.2014.

82. The main provisions of the Orders of the Ministry of Health of Ukraine № 955 from 05.11.2013 “Procedure for emergency post-exposure prophylaxis of HIV infection in employees in the performance of professional duties”, № 148 from 17.03.2015 “On approval of the Procedure for confirmation of HIV infection with the employee performing his / her professional duties ”, № 955 dated 05.11.2013“ On approval of normative legal acts on protection against HIV infection in the performance of professional duties ”and others.

83. Viral hepatitis, their potential danger to healthcare professionals. Prevention of hepatitis virus infection and immunoprophylaxis in contact with biological materials of a patient with hepatitis.

84. Resolution of the Cabinet of Ministers of Ukraine № 637 of 29.04.13 “On approval of the State target social program for prevention, diagnosis and treatment of viral hepatitis for the period up to 2016.”

85. Tuberculosis and its prevalence in Ukraine and the world. Potential occupational hazards for healthcare professionals.

86. Measures to prevent tuberculosis infection of health workers. Laws of Ukraine "On Combating Tuberculosis", "On Approval of the National Targeted Social Program to Combat Tuberculosis for 2012-2016".

87. Colors, safety signs and signal markings.

88. General safety requirements for technological equipment and processes in the hospital. Safety during operation of pressure systems and cryogenic equipment.

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

90. Conditions of human electric shock. Safe operation of electrical installations: electrical protective equipment and measures.

91. Fundamentals of fire safety. State fire supervision. Fire prevention during the design and operation of PHC and medical equipment.

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

93. The main means and measures to ensure fire safety of the production facility. Fire alarm. Fire extinguishers.

94. Actions of personnel in case of fire. Ensuring the safe evacuation of personnel. Ensuring and controlling the state of fire safety at production facilities. Training in fire safety rules for employees of hospitals.

EXAMINATION OPTION № 0

Petro Mohyla Black Sea National University
Level of higher education - master
Area of knowledge: 22 "Health"
Specialty 222 "Medicine"

Academic discipline
Occupational Health in

Option № 0

1. Subjects and objects of labor protection - 20b.
2. Physical harmful and dangerous factors of the working environment and their impact on the health of medical workers -20b.
3. Organization of air exchange in the premises of the hospital, ventilation -20b.
4. Fire extinguishers -20b.

Approved at the meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № ___ dated ____ 2021

Head of the Department Doctor of Medicine, Prof. Zyuzin V.O.

Examiner Ph.D., Muntian L.Ya.

Example of final control work

1. Solve test tasks:

1.Choose the correct answer. Which committee in Ukraine performs the functions of state supervision over labor protection in all sectors of the economy?

1) State Committee of Ukraine for Labor Protection Supervision;
2) State Committee of Ukraine for Industrial Safety, Labor Protection and Mining Supervision (Derzhgirpromnahlyad) within the Ministry for Emergencies;
3) National Security Council;
4) State Committee for Supervision of Safe Work in Industry.

2. International standard ISO 26 000 "Guidelines for social **responsibility**" (*answer the theoretical question*).

3. Personnel health and safety management system according to OHSAS 18001 (*answer the theoretical question*).

4. Difficulty of work: dynamic, static loads (*answer the theoretical question*).

5. *Choose the correct answer.* At what number of victims is the accident considered a group accident?

1) 2 and more;
2) 3 or more;
3) 5;
4) 6.

6. Sanitary and hygienic requirements for working conditions in the industry (*answer the theoretical question*).

7. **Choose the correct answer.** According to the total energy expenditure of the body, physical work is divided into:

1) light, heavy;

2) light, medium, heavy;

3) light medium, heavy;

4) for men, for women, for teenagers, for the disabled.

8. Ventilation and air conditioning (**answer the theoretical question**).

9. *Choose the correct answer.* What fire extinguishing agent do you recommend for extinguishing live equipment?

1) water;

2) all types of foams;

3) nitrogen;

4) refrigerants, powders.

10. Vibration. Measures and means of protection against vibration (**answer the theoretical question**).

2. Explain the issues:

1. The subject and object of labor protection.

And so 20 with the subsequent analysis of typical errors

6. Evaluation criteria and diagnostic tools for learning outcomes

Control methods

• Survey (testing of theoretical knowledge and practical skills).

• Test control.

• Writing a review of scientific literature (abstracts), performing individual tasks, their defense.

Current control. Testing in practical classes of theoretical knowledge and the acquisition of practical skills, as well as the results of independent work of students. Supervised by teachers according to the specific purpose of the curriculum. Assessment of the level of student training is carried out by: interviewing students, solving and analyzing situational tasks and test tasks, interpreting the results of experimental and clinical and laboratory research, monitoring the acquisition of practical skills.

Intermediate control. Checking the possibility of using students for clinical and diagnostic analysis of theoretical knowledge and practical skills on all topics studied, as well as the results of independent work of students. Carried out in the last lesson by section by passing practical skills, solving situational problems and testing.

The final test is carried out upon completion of the study of all topics of the block at the last test of the semester.

Students who have attended all lectures, classroom classes, and have completed their independent work are admitted to the intermediate final control (attestation) and final control (exam).

Distribution of points assigned to the student

The maximum number of points assigned to a student - 200 points, including for current educational activities - 120 points (the sum of points for current educational activities and for independent work of the student), according to the results of the final control - 80 points.

Assessment of student performance

Type of activity (task)	Maximum number of points
Topic 1	10
Topic 2	10
Topic 3	10
Topic 4	10
Topic 5	10
Topic 6	10
Topic 7	10
Topic 8	10
Topic 9	10
Topic 10	10
Individual work	20
Together	120
Final test	80
Total	200

Criteria for assessing knowledge

A student's answer is evaluated with a score of 10 points 71-80 points on the RCC and 71-80 points on the exam (A on the ECTS scale and 5 on the national scale) if it demonstrates deep knowledge of all theoretical positions and ability to apply theoretical material for practical analysis. no inaccuracies.

Score 7 points 61-70 points on the RCC and 61-70 points on the exam (B and C on the ECTS scale and 4 on the national scale) the answer is evaluated if it shows knowledge of all theoretical principles, ability to apply them in practice, but some fundamental inaccuracies are allowed .

With a score of 4 points 50-60 points on the RCC and 50-60 points on the exam (D and E on the ECTS scale and 3 on the national scale) the student's answer is evaluated provided that he knows the main theoretical principles and can use them in practice.

7. Recommended sources of information

7.1Main:

1. Occupational safety in the medical field: teaching method. way. / O.P. Yavorovsky, MI Veremey, VI Zenkin and others. - K.: BCB “Медицина”, 2015. - 208 c.

2. Life safety, basics of labor protection: textbook. way. / O.P. Yavorovsky, VM Shevtsova, VI Zenkin and others; for general ed OP Yavorovsky. - K .: BCB “Медицина”, 2015. - 288 c.

3. Life safety, basics of labor protection: Educational-methodical manual / emphasis: O.P. Yavorovsky, VM Шевцова, Г.А. Shkurko et al.- Cherkasy: publisher Chabanenko YA, 2012. - 232 p.

4. Occupational Hygiene: Textbook /Y.I. Kundiev, OP Yavorovsky, A.M. Shevchenko and others; for order. acad. NAS of Ukraine, NAMS of Ukraine, prof. Yu.I. Kundieva, Corresponding Member NAMS of Ukraine prof. OP Yavorovsky.- K .: VSV "Medicine", 2011.- 904p., 1993.

7.2. Additional:

1. Hygiene and labor protection of medical workers. Educational manual / Ed. V.F. Москаленка, O.П. Yavorovsky. - K .: "Медицина", 2009. - C.6-56.

2. Hygiene and labor protection of medical workers. Educational manual / Ed. VF Moskalenko, OP Yavorovsky. - K .: «Медицина», 2009. - 176 c.

3. The Constitution of Ukraine. The Basic Law of June 28, 1996.

4. Code of Labor Laws of Ukraine. Law № 322-VIII of 10.12.71.

5. Law of Ukraine "On labor protection" of October 14, 1992.

6. Law of Ukraine "On Ensuring Sanitary and Epidemic Welfare of the Population" № 4004-XII of 24.02.94.

7. Law of Ukraine "On Collective Bargaining Agreements" № 1874 of 24.12.95.

8. Law of Ukraine "On Insurance Tariffs for Compulsory State Social Insurance against Accidents at Work and Occupational Diseases That Caused Disability" № 1423 of September 13, 2000.

9. Law of Ukraine "On Administrative Violations" № 8074-10 of 07.12.84.

10. Fundamentals of the legislation of Ukraine on health care № 2802-XII dated 19.11.92.

11. Law of Ukraine "On protection of a person from the influence of ionizing radiation" № 15/98-BP of 14.01.1998.

12. Code of Civil Protection of Ukraine № 5403-VI dated 02.10.2012.

13. Law of Ukraine "On high-risk objects" № 2245-III of January 18, 2001.

14. Law of Ukraine On Approval of the National Targeted Social Program for Combating HIV / AIDS for 2014-2018 № 1708-VII of October 20, 2014.

15. Law of Ukraine "On Counteracting the Spread of Diseases Caused by Human Immunodeficiency Virus (HIV) and Legal and Social Protection of People Living with HIV" № 1972-XII of 12.12.1991.

16. Laws of Ukraine "On Counteraction to Tuberculosis" № 2586-III of July 5, 2001.

17. Resolution of the Cabinet of Ministers of Ukraine "Procedure for Investigation and Accounting of Accidents, Occupational Diseases and Accidents at Work" № 1232 of November 30, 2011.

18. Resolution of the Cabinet of Ministers of Ukraine №1662 of 08.11.2000 "On approval of the list of occupational diseases".

19. Resolution of the Cabinet of Ministers of Ukraine № 442 of August 1, 1992 "On the Procedure for Attestation of Workplaces under Working Conditions".

20. Resolution of the Cabinet of Ministers of Ukraine № 559 of 23.05.2001 "On approval of the list of professions, industries and organizations whose employees are subject to mandatory preventive medical examinations, the procedure for these examinations and the issuance of personal medical records."

21. Resolution of the Cabinet of Ministers of Ukraine № 637 of 29.04.13 "On approval of the State target social program for prevention, diagnosis and treatment of viral hepatitis for the period up to 2016".

22. Resolution of the Cabinet of Ministers of Ukraine № 955 of 05.11.2013 "On approval of normative legal acts on protection against HIV infection in the performance of professional duties".

23. Resolution of the Cabinet of Ministers of Ukraine № 148 of March 17, 2015 “On approval of the Procedure for confirming the connection between HIV infection and the performance of their professional duties by an employee”.

24. Order of the Ministry of Health of Ukraine № 268 of 30.09.94 “On the labor protection service of the system of the Ministry of Health of Ukraine”.

25. Order of the Ministry of Health of Ukraine №133 of 25.03.2003 "On approval of the List of specialized treatment and prevention facilities that have the right to establish a final diagnosis of occupational diseases."

26. Order of the Ministry of Health of Ukraine №614 of 13.12.2004 “On approval of the Procedure for compiling and requirements for sanitary and hygienic characteristics of working conditions”.

27. Order of the Ministry of Health of Ukraine №246 of 21.05.2007 “On approval of the Procedure for conducting medical examinations of employees of certain categories”.

28. Order of the Ministry of Health of Ukraine №256 of 29.12.93 “List of works with harmful or dangerous working conditions, in which the use of women's labor is prohibited”.

29. Order of the Ministry of Health of Ukraine №276 of 10.12.93 “Limit norms for lifting and moving heavy objects by women”.

30. Order of the Ministry of Health of Ukraine №46 of 31.03.94 “List of heavy work with harmful or dangerous working conditions, in which the use of minors is prohibited”.

31. Order of the Ministry of Health of Ukraine №59 of March 22, 1995 “Limit norms for lifting and moving heavy objects by minors”.

32. Orders of the Ministry of Health of Ukraine № 955 of 05.11.2013 “Procedure for emergency post-exposure prophylaxis of HIV infection in employees in the performance of professional duties”.

33. Order of the Ministry of Health of Ukraine “On the introduction of operational control over the state of labor protection in institutions, establishments and enterprises of the system of the Ministry of Health of Ukraine” № 444 of 01.11.2001.

34. “Hygienic classification of labor according to indicators of harmfulness and danger of factors of the production environment, severity and intensity of the labor process”, approved by the order of the Ministry of Health of Ukraine № 248 of 08.04.2014.

35. Order of the State Labor Inspectorate of Ukraine № 15 of January 26, 2005 “Standard Regulation on the Procedure for Conducting Training and Testing of Knowledge on Occupational Safety and Health”.

36. Order of the State Labor Inspectorate of Ukraine № 15 of January 26, 2005 “List of works with increased danger”.

37. Order of the State Labor Inspectorate of Ukraine № 255 of 15.11.04 “Standard regulations on the labor protection service”.

38. Order of the Ministry of Labor and Social Policy of Ukraine № 260 of 08.06.01 “On approval of the form of employment contract between employees and an individual and the procedure for registration of an employment contract between employees and an individual”.

39. Radiation safety standards of Ukraine (NRBU-97). - Kyiv: Department of Printing of the Ukrainian Center for State Sanitary Supervision of the Ministry of Health of Ukraine, 1998. - 125 p.

40. LTO 3.3.6.039-99 “State sanitary norms of industrial general and local vibration”.

41. LTO 3.3.6.037-99 “State sanitary norms of industrial noise, ultrasound and infrasound”.

42. “Sanitary norms of permissible noise generated by medical devices in the premises of medical and preventive institutions” № 3057-84.
43. LTO 3.3.6.042-99 “Sanitary norms of microclimate of industrial premises”.
44. DBN B.2.5-28-2006 "Natural and artificial lighting".
45. SN 4557-88 "Sanitary standards of ultraviolet radiation in industrial premises".
46. Sanitary norms and rules of the device and operation of lasers (approved by the Chief State Sanitary Physician of the USSR on July 31, 1991 № 5804-91).
47. LTO 3.3.6.096-02 "State sanitary norms and rules when working with sources of electromagnetic fields".
48. DSanPiN 3.3.2.007-98 "State sanitary rules and regulations for work with visual display terminals of electronic computers".
49. GOST 12.0.003-74 SSBT “Hazardous and harmful production factors. Classification ”.
50. GOST 12.1.007-74 SSBT “Harmful substances. Classification and general safety requirements ”.
51. GOST 12.1.005-88 SSBT "General sanitary and hygienic requirements for the air of the working area".
52. GOST 12.1.004-91 SSBT “Fire safety. General requirements ”.
53. GOST 12.1.010-76 SSBT “Explosive. General requirements ”.
54. GOST 12.1.012-90 SSBT “Vibration safety. General requirements ”.
55. GOST 12.1.029-80 SSBT “Means and methods of noise protection. Classification ”.
56. GOST 12.1.030-81 SSBT “Electrical safety. Protective grounding, zeroing ”.
57. GOST 12.1.044-89 SSBT "Fire and explosion hazard of substances and materials".
58. GOST 12.4.013-85 E SSBT “Goggles. General technical conditions ".
59. GOST 12.4.026-76 SSBT "Signal colors and safety signs".
60. GOST 12.4.034-85 SSBT “Means of individual respiratory protection. Classification and marking ”.
61. GOST 12.4.124-83 SSBT “Means of protection against static electricity. General technical requirements ”.
62. GOST 12.4.068-79 SSBT “Dermatological personal protective equipment. Classification and general requirements ”.
63. GOST 12.4.115-82 SSBT "Means of individual protection of workers. General labeling requirements ”.
64. GOST 23134-78 “Medical headgear. Technical conditions ”.
65. GOST 24760-81 “Women's medical gowns. Technical conditions ”.
66. GOST 25194-82 “Medical gowns for men. Technical conditions ”.
67. DSTU 2293-99 “Labor protection. Terms and definitions of basic concepts.
68. DSTU-P ONSAS 18001-2006 “Occupational safety and health management systems. Requirements ”.
69. DSTU-P ONSAS 18002-2006 “Occupational safety and health management system. Basic principles of fulfilling the requirements of OCAC 18001 ”.
70. DSTU 2299-93 “Means of individual respiratory protection. Terms and definitions ”.
71. DSTU 3038-95 “Hygiene. Terms and definitions of basic concepts.
72. DSTU 2272: 2006 “Fire safety. Terms and definitions of basic concepts. - K .: Держспоживстандарт, 2007. - 28 c.
73. DBN B.2.2-9: 2009 “Public buildings and structures”.

74. DBN B 2.2-10-01 "Design of health care facilities".

75. DBN B.2.5-67: 2013 “Heating, ventilation and air conditioning”.

76. DBN B.1.1-31: 2013 "Protection of territories, buildings and structures from noise".

77. SP 2813-83 "Rules and regulations for the use of open radiopharmaceuticals for diagnostic purposes."

78. JV 2672-83 "Uniform sanitary rules for enterprises (industrial associations), shops and sites intended for the use of labor of the disabled and old-age pensioners."

79. GR 2049-79 "Hygienic recommendations for the rational employment of pregnant women."

80. Order of the Ministry of Education and Science of Ukraine № 563 dated 01.08.01 “Regulations on the organization of work on labor protection of participants in the educational process in educational institutions”.

81. DNAOP 0.00-1.21-98 "Rules for safe operation of electrical installations of consumers."

82. NAOP 9.1.50-1.02-59 "Rules on sanitation when working in anti-tuberculosis institutions of the Ministry of Health of the USSR".

83. NAOP 9.1.50-1.04-64 "Rules of equipment and operation of premises of pathological departments and morgues (histopathological and forensic histological laboratories) of medical and preventive and forensic medical institutions, institutes and educational institutions."

84. NPAOP 85.11-1.06-70 (NPAOP 85.11-1.06-70) "Rules of equipment, operation and safety of physiotherapy departments (offices)".

85. NPAOP 85.14-1.08-79 (NPAOP 85.14-1.08-79) “Rules on labor protection of disinfection workers and on maintenance of disinfection stations, disinfection departments, preventive disinfection departments of sanitary-epidemiological stations, separate disinfection facilities”.

86. NPAOP 85.14-1.09-81 (NPAOP 85.14-1.09-81) "Rules of the device, safety, industrial sanitation, anti-epidemic regime and personal hygiene when working in laboratories (departments, divisions) of sanitary-epidemiological institutions of the USSR Ministry of Health."

87. NAOP 9.1.50-1.10-84 (NPAOP 85.11-1.10-84) “Safety rules for the operation of medical devices in health care facilities. General requirements".

88. NAOP 9.1.50-1.13-59 (NPAOP 85.11-1.13-59) "Rules of equipment and operation of infectious institutions (infectious wards, wards), as well as labor protection of personnel of these institutions."

89. NAOP 9.1.50-1.15-69 "Sanitary rules for the design, equipment, operation and maintenance of production and laboratory facilities, which are designed to work with mercury, its compounds and devices."

90. NAOP 9.1.50-2.01-70 (OST 42-21-11-81) “Offices and departments of radiation therapy. Security requirements.

91. NAOP 9.1.50-2.02-3 (OST 42-21-15-83) “X-ray diagnostic rooms. Security requirements.

92. NAOP 9.1.50-2.08-86 (OST 42-21-16-86) “Departments, physiotherapy rooms. General safety requirements ”.

93. NAOP 9.1.50-3.01-88 (NPAOP 85.0-3.01-88) "Sectoral norms of free issuance of overalls, footwear and other personal protective equipment, as well as norms of sanitary

clothing and sanitary footwear to employees of institutions, enterprises and organizations of the health care system" I".

94. NAOP 9.1.50-5.01-88 "Standard instructions on labor protection when working with laser devices".

95. NAOP 9.1.50-5.02-88 "Standard instructions on labor protection for personnel of operating units".

96. NAOP 9.1.50-5.04-85 "Standard instructions on safety and industrial sanitation for personnel of radiodiagnostic units of treatment and prevention facilities".

97. NAOP 9.1.50-5.05-84 "Standard instructions for safety and industrial sanitation for staff of X-ray diagnostic rooms of treatment and prevention facilities of the Ministry of Health of the USSR."

98. NAOP 9.1.50-5.07-85 "Standard instructions for safety in the maintenance and repair of buildings and structures."

99. NAOP 9.1.50-5.08-85 "Standard instructions for safety when working in sterilization facilities."

100. NAOP 9.1.50-6.03-88 (GMV 42-21-26-88) “Sectoral guidelines. Hyperbaric oxygenation department. Rules of operation and repair ".

101. NAOP 9.1.50-6.04-91 "Guidelines for improving the working conditions of medical workers engaged in ultrasound diagnostics."

102. NPAOP 0.00-1.28-10 "Rules of labor protection during operation of electronic computers".

103. Occupational health (research methods and sanitary-epidemiological surveillance). / Ed. AM Shevchenko, OP Yavorovsky.– Vinnytsia: NEW BOOK, 2005.- 528p.

104. Hygiene and labor protection of medical workers /V.I. Свидовый, E.E. Palishkina - SPb .: Publishing house SPb GMA them. II Mechnikova, 2006. - 90 p.

105. ILO Convention on Occupational Health and Safety.

The discipline "Hygiene and Ecology"IV,V semestr

2. Purpose, tasks and planned learning outcomes

The purpose of teaching / studying the discipline "Hygiene and Ecology" is to study the impact of environmental factors on human health, assessment of health risk factors and justification of measures aimed at disease prevention, ensuring optimal living conditions, health promotion and prolongation human life.

Objectives of study: the acquisition by the student of competencies, knowledge, skills and abilities for professional activity in the specialty of:

1) laying the theoretical foundations of hygiene and ecology, as science (terminology, laws, methods, principles of hygienic regulation, regulatory and methodological support for the application of preventive measures) and practice of practical skills on: prevention of diseases of infectious and non-infectious origin in accordance with current legislation of Ukraine;

2) hygienic assessment of the impact of physical, chemical, microbiological factors, etc. on the human body and the environment;

3) the use of favorable health factors of the environment to strengthen human health, harden the body, etc.

Prerequisites for studying the discipline (interdisciplinary connections). Hygiene and ecology as a discipline:

a) is based on knowledge of basic natural science disciplines: medical biology, medical and biological physics, human anatomy, physiology, histology, cytology and embryology, biological and bioorganic chemistry, microbiology, virology and immunology and integrates with these disciplines.
b) creates the basis for further study of epidemiology, infectious diseases, internal diseases and other clinical disciplines.
c) lays the foundations for the formation of knowledge, skills and abilities that are determined by the ultimate goals of the program, necessary for the next professional activity.

Expected learning outcomes. As a result of studying the discipline, students have:
● Analyze the state of the environment and the impact of its factors on the health of different groups.
● Demonstrate mastery of methods for hygienic assessment of the impact of environmental factors on human health.
● Interpret the basic laws of hygienic science and the general laws of the relationship of health with the factors and conditions of the living environment.
● Justify hygienic measures for the prevention of diseases of infectious origin.
● Plan activities for a healthy lifestyle, personal hygiene and implement them in health care practices.
● Plan organizational and substantive measures for preventive and ongoing sanitary supervision.
● Coordinate plans for preventive measures with plans for the development of territorial, administrative and production units.
● Analyze the state of the environment on the basis of integrated criteria for assessing the state of health of the population.
● To substantiate the implementation of preventive measures in accordance with the basics of current legislation of Ukraine.
According to the requirements of the educational and professional program, students must:
KNOW:
● problems of environmental protection and ways to preserve it;
● environmental factors that negatively affect the health of the population, methods of assessing the health of the population;
● methods of assessing environmental factors and methods of determining the relationship between them;
● measures to prevent the negative impact of environmental factors on public health.
BE ABLE:
● form requirements for themselves and others to preserve the environment;
● assess the state of health of the population, the state of the environment and negative factors influencing health;
● interpret methods and means of hygienic research;
● to form preventive measures on the basis of data on the relationship between the state of the environment and the state of health of certain contingents.
MOTHER OF COMPETENCE:
● ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements;
● desire to preserve the environment;
● ability to learn and master modern knowledge;
● ability to apply knowledge in practical situations;
● knowledge and understanding of the subject area and understanding of professional activity;
● ability to communicate in the state language both orally and in writing;
● ability to communicate in a foreign language;
● skills in using information and communication technologies;
● determination and persistence in terms of tasks and responsibilities;
● ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population;
● ability to carry out sanitary and hygienic and preventive measures.

The developed program corresponds to the **educational-professional program (OPP)** and is focused on the formation of competencies:

general (LC) - LC1, LC10 OPP:
● Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
● The desire to preserve the environment.
professional (FC) - FC10, FC14-FC15, FC17, FC20 OPP:
● Ability to carry out medical and evacuation measures.
● Ability to carry out sanitary and hygienic and preventive measures.
● Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.
● Ability to conduct a health examination.
● Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population.
According to the educational-professional program, the expected program learning outcomes (PRN) include the skills of PRN4, PRN10, PRN29, PRN31, PRN37, PRN38, PRN39 OPP:
● Know the types and methods of adaptation, principles of action in a new situation. To be able to apply means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity. Establish appropriate connections to achieve results. Be responsible for the timely use of self-regulatory methods.
● Know the problems of environmental protection and ways to preserve it. Be able to form requirements for themselves and others to preserve the environment. Make proposals to the relevant authorities and institutions on measures to preserve and protect the environment. Be responsible for the implementation of environmental protection measures within its competence.
● Plan measures to prevent the spread of infectious diseases (according to list 2) in the health care facility, its unit based on the results of epidemiological surveys of infectious diseases, epidemiological analysis, using existing preventive and anti-epidemic methods.
● Identify in the conditions of the health care institution, its subdivision using statistical and laboratory methods of risk group, risk areas, time of risk, risk factors and carry out epidemiological analysis of infectious diseases of the population.
● In the conditions of a health care institution, its subdivision according to standard methods:
- to determine the negative environmental factors on the basis of the data of the sanitary-preventive institution by comparing the existing norms and standards;
- to analyze the state of health of a certain contingent on the basis of official data by comparing it with average indicators;
- to determine the relationship between the state of the environment and the state of health of a certain contingent on the basis of data about them;
- to develop preventive measures on the basis of data on the relationship between the state of the environment and the state of health of a certain contingent.
● Carry out analysis of morbidity of the population, identifying risk groups, risk areas, time of risk, risk factors, in the conditions of the health care institution, its subdivision, using statistical and laboratory methods.
● Assess the impact of socio-economic and biological determinants on the health of the individual, family, population, in the service area according to standard methods and on the basis of epidemiological and medical-statistical studies.

3. The program of the discipline

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).
The curriculum consists of two blocks:

BLOCK 1. GENERAL ISSUES OF HYGIENE AND ECOLOGY
SECTIONS:
1. HYGIENE AS A SCIENCE
2. SCIENTIFIC FUNDAMENTALS AND PRINCIPLES OF HYGIENIC STANDARDIZATION

BLOCK 2. SPECIAL ISSUES OF HYGIENE AND ECOLOGY
SECTIONS:

3. HYGIENE OF CHILDREN AND ADOLESCENTS
4. CURRENT ISSUES OF OCCUPATIONAL HYGIENE
5. HYGIENE OF TREATMENT AND PREVENTION INSTITUTIONS AND PREVENTION OF IN-HOSPITAL INFECTIONS
6. CURRENT ISSUES OF RADIATION HYGIENE
7. GENERAL REGULARITIES OF HUMAN ADAPTATION TO DIFFERENT ENVIRONMENTAL CONDITIONS

BLOCK 1. GENERAL ISSUES OF HYGIENE AND ECOLOGY

CHAPTER 1.

HYGIENE AS A SCIENCE

Topic 1 "Hygiene as a science, its purpose, tasks, content, methods of hygienic research. Ecology as a science, its purpose, tasks, content, connection with other sciences ".

Hygiene as a science, its purpose, tasks, content, connection with other sciences. Ecology as a science, its purpose, tasks, content, connection with other sciences. Preventive orientation of domestic medicine, public and personal prevention, primary, secondary and tertiary, defining priorities. The value of hygiene knowledge for the formation of professional thinking and practice of doctors of different specialties. The concept of methodology as a doctrine of scientific knowledge of reality. Fundamentals of hygiene methodology: general philosophical laws and categories, their use in hygiene. Theoretical foundations of hygiene (basic laws), their essence, the contribution of the most prominent domestic scientists-hygienists for their scientific substantiation, interpretation and practical use. Environment and human health. Topical issues of hygiene in the arid and humid climate of the tropics.

Methods and techniques of hygienic research, their classification. Methods of studying the state of the environment and its hygienic assessment, methods of studying the impact of the environment on human health. Sanitary legislation.

Topic 2 "Scientific bases and principles of hygienic rationing. Hygienic regulation of chemicals in atmospheric air, air of the working area, water of reservoirs, soil and food products ".

Hygienic standardization of environmental factors. The concept of hygienic regulation in meteorology and climatology, physical factors of the biosphere (infrared, ultraviolet, electromagnetic, ionizing radiation, noise, vibration). The value of hygienic rationing of harmful chemicals. Methodical schemes, principles and methods of hygienic rationing in different environments. Hygienic regulation of chemicals in the air of the working area, atmospheric air, water, reservoirs, food and soil. Limiting signs of harmfulness, threshold concentrations, the most ineffective doses, concentrations. Types of hygienic standards: maximum permissible concentrations (MPC) in different environments, the maximum single concentration (MPCm.r.) of the substance in the air and the air of the working area, the average daily concentration of the substance (MPC) in atmospheric air, the average variable (MPC.s .) in the production environment, maximum permissible levels (MDR) of pesticides and nitrates in food products, DDD permissible daily dose, DCM - permissible amount of migration (into the environment of polymeric and other materials). Features of rationing of drugs in atmospheric air, water of reservoirs, industrial environment, in separate foodstuff. The concept of express-experimental method of substantiation of MPC (OBRD - approximate allowable levels of action). The concept of combined, complex, combined action, evaluation methods. Scientific-methodical and normative-legislative documentation on hygienic standardization of xenobiotics.

Topic 3 "History of the formation and development of hygiene. The modern period of hygiene development "

An empirical stage in the history of hygiene. Empirical hygiene in the countries of the Ancient East, China, Greece, Ancient Rome, Russia. Achievements of Hippocrates, Avicenna, D. Fracastoro, B. Rammatzini, in the field of preventive medicine. Sanitary culture of Kievan Rus during the empirical stage of hygiene development. Activities of Evpraksia, Feodosiya Pechersky, Agapit Pechersky, Petro Mohyla, Danylo Samoilovych, Yuriy Kotermak (Drohobych) in the field of health preservation. Views of M.Ya. Мудрова, Г.А. Zakhar'ina, S.P. Botkin, MI Pirogov on the role of preventive medicine. 13

Scientific and experimental stage of hygiene development. The role of M. Pettenkofer, FF Erisman, OP Dobroslavina, VA Subbotina, GV Khlopin and other scientists in the formation of the scientific and experimental stage of hygiene development. Formation of scientific hygienic schools (English, North American, French, Austro-Prussian). History of development of hygienic science in Ukraine. Creation of departments of hygiene in medical universities of Ukraine. Contribution OV KorchakChepurkivsky, VA

Subbotina, VV Удовенка, В.Я. Pidhaetskoho, I.Ya. Горбачевського, O.M. Marzeeva, LI Bear, P.I. Barannika, D.M. Kalyuzhnogo, VZ Мартинюка, Г.Х. Shahbazyan, R.D. Габовича, Є.Г. Goncharuka, Yu.I. Kundieva, A.M. Serdyuk and others. Preventive direction in the activity of Ukrainian doctors of Galicia - E. Ozarkevych, M. Panchyshyn, R. Osinchuk, S. Parfanovych and others. Medical and sanitary service in the Ukrainian People's Republic (B. Matyushenko), Western Ukraine (I. Kurivets). History of formation and development of the Department of General Hygiene and Ecology of Danylo Haltsky LNMU. Lviv Scientific School of Hygienists. Contribution to the development of hygienic science of the twentieth century OO Minha, F.G. Krotkova, ZG Frenkel, P.E. Kalmikova, MF Галаніна, A.A. Letaveta, S.N. Cherkinsky, VO Рязанова, Г.І. Rumyantseva, GI Сидоренка, Г.І. Serdyukovskaya. History of origin, main stages of development and current state of ecology. Stages of development of ecology as a science. Botanical and geographical reports of ecological content in the cultures of the Ancient East, China, Greece, Ancient Rome, Ukraine and Russia. Development of ecology in the countries of the world at different stages of development of society. International cooperation in hygienic and ecological sciences in the modern period.

Topic 4 "Hygienic value of solar radiation"

Physical bases of solar radiation. Physical bases of solar radiation. The concept of solar activity, "solar wind", interplanetary magnetic field. Interaction of components of solar radiation with the Earth's magnetosphere and atmosphere. Solar spectrum at the boundary between the atmosphere and the earth's surface. The value of the ozone layer of the atmosphere, ozone "holes". Impact of solar activity on the biosphere, the human body and human health. Hygienic value of infrared radiation of the Sun, pathology caused by its excessive action, its prevention. Infrared radiation of artificial origin and the use of its sources in medicine. Hygienic value of visible radiation of the Sun and its use in medicine, devices for determination. Biosafety issues of solar radiation application.

Hygienic value of ultraviolet radiation of the Sun. Hygienic value of ultraviolet radiation of the Sun and its use in medicine, devices for determination. Biogenic and abiogenic action of ultraviolet rays. Insufficient and excessive ultraviolet radiation, their negative impact on the body. The concept of erythema and prophylactic dose of ultraviolet radiation. Artificial sources of ultraviolet radiation and their comparative hygienic characteristics. The use of natural and artificial ultraviolet radiation for the prevention of human diseases, prevention of harmful effects of physical, chemical and biological factors. Issues of bioethics in the application of ultraviolet radiation.

Topic 5 "Hygienic value of the components of the biosphere (atmosphere, hydrosphere, lithosphere)"

Biosphere, its components (atmosphere, hydrosphere, lithosphere). The teachings of VI Vernadsky on the noosphere. Atmosphere and its structure. The natural chemical composition of atmospheric air and the hygienic value of its individual components. Oxygen, nitrogen, carbon dioxide, ozone, their biological role. Atmospheric pressure and its effect on the body. Electrical state of the atmosphere (ionization of air, electric field of the Earth, geomagnetic field, electromagnetic fields of radio frequencies and others), its hygienic value. Denaturation of the biosphere. The main sources, types and consequences of anthropogenic air pollution and indoor air. Characteristics of sources of air pollution in the settlement. Regularities of distribution of pollution in the atmosphere, factors on which the level of air pollution depends. Transformation of chemicals in atmospheric air. Impact of polluted air on the health and living conditions of the population. Direct effect on the body: acute poisoning, chronic specific and nonspecific diseases. Indirect action due to atmospheric circulation, attenuation of ultraviolet radiation, reduction of light levels, etc. Ways and means to prevent the negative impact of polluted air on health. Bioethical aspects and biosafety issues of biosphere denaturation.

Topic 6 "Hygienic significance of climate, weather, their impact on public health" Weather, definition. The main patterns of weather formation. Factors that shape and characterize the weather. Types of atmospheric circulation, main thermobaric formations: anticyclones, cyclones, atmospheric fronts. Direct and indirect effects of weather on human health. Medical weather classifications. Heliometeotropic reactions of healthy and sick people. Prevention of heliometeotropic reactions: permanent, seasonal, urgent. Influence of weather on the dynamics of air pollution. The concept of temperature inversion. Climate, definition. Factors that shape and characterize the climate. General and applied (medical, construction) classifications of climate. Climatic features of different geographical regions. Climate, health and efficiency. The concept of medical geography and medical-geographical mapping. Acclimatization. Phases of acclimatization. Climatotropic reactions of healthy and sick people, their prevention. Features of acclimatization in the polar regions, deserts, highlands, dry and humid tropics. Use of climate for medical and health purposes. Features

of the impact of different types of weather and climate on human health. Manifestations of heliometeotropic reactions in people of different ages., Prevention. Bioethical aspects and biosafety issues of the impact of natural and anthropogenic factors on human health. Features of the influence of tropical climate on living conditions, working capacity and health of the population. Hygienic characteristics of climate and weather of hot and tropical latitudes. Physiological features of thermoregulatory mechanisms in tropical climate and its impact on the body and health. Human adaptation and acclimatization in hot and tropical climates. Health disorders and diseases typical of hot and tropical climates and their prevention.

SECTION 2
SCIENTIFIC FUNDAMENTALS AND PRINCIPLES OF HYGIENIC STANDARDIZATION

Topic 7 "Hygiene of populated areas. Housing hygiene. Microclimate, heating, ventilation, natural and artificial lighting, methods of their measurement and hygienic assessment "Urbanization as a socio-hygienic problem. Positive and negative aspects of urbanization. Basic principles and requirements for planning and construction of the settlement. Housing, social and hygienic problems of housing construction in Ukraine and other countries. Types of residential and public buildings. Hygienic value of physical properties of air (temperature, humidity and speed of movement). Microclimate and its hygienic value. Types and influence of uncomfortable (cooling and heating) microclimate on human heat exchange and health. Methods and indicators for assessing the complex effects of the microclimate on the human body (physical modeling, effective equivalent temperatures, resulting temperatures and others). Calculation methods for assessing the impact of tropical climate on the thermal state of the organism. Hygienic value of natural and artificial lighting in residential and public premises, their hygienic assessment.

Methods for determination and hygienic assessment of dust, chemical and bacteriological air pollution. Carbon dioxide and air oxidation as indicators of anthropogenic air pollution and indoor ventilation. Basic concepts of types, hygienic value and indicators of ventilation. Necessary and actual volume and frequency of ventilation, their scientific substantiation. The concept of an air cube. Adverse physical and chemical factors in the operation of household appliances. Hygiene and biosafety of housing. Urban transport and other adverse environmental factors in the settlement (noise, vibration, electromagnetic fields, air pollution, excessive psychogenic loads, etc.), their sources and measures to eliminate harmful effects. Hygienic and socio-hygienic problems of the modern village. Hygienic features of planning and development of rural settlements. Features of planning and development of settlements in the conditions of arid and humid tropical climate.

Topic 8 "Water hygiene and water supply"

Water as an environmental factor, its hygienic value. Norms of water consumption depending on the level of communal and sanitary improvement of the settlement, living conditions, stay and human activity. Scientific substantiation of drinking water quality standards. State sanitary rules and norms of drinking water quality. General hygienic requirements for drinking water quality, its organoleptic properties, chemical composition, epidemic safety. Influence of organoleptic properties of drinking water on the level of water consumption and the state of sanitary culture of the population. The value of drinking water quality in the biosafety of the population. Water as an etiological factor of diseases of non-infectious nature. Danger to human health of excessive content in water of various chemicals of natural origin and chemical compounds that fall due to anthropogenic pollution into water sources and drinking water during its purification and other ways to improve quality. The concept of biogeochemical provinces. Endemic fluorosis, water-nitrate methemoglobinemia. Features of fluoride normalization in drinking water in different climatic regions. Hygienic value of insufficient content of some microelements in water for caries (fluoride), endemic goiter (iodine) and other diseases.

Epidemiological significance of water. The role of water and water supply conditions in the spread of infectious diseases. Classification of infectious diseases, the causative agents of which are transmitted by water (cholera, typhoid fever, dysentery, etc.). Sources of water supply, their comparative hygienic characteristics. Sanitary protection zones. Bioethical aspects and issues of biosafety of water supply sources. Centralized and decentralized water supply systems, their comparative hygienic characteristics. Water treatment methods: basic (lightening, decolorization and disinfection) and special (iron removal, softening, demineralization, deodorization, decontamination, fluorination, defluorination, etc.). General scheme of arrangement of the main structures of the water supply system from underground and surface water supply sources. Water supply network and its arrangement. Causes of water pollution and infection in the water supply network. Sanitary supervision over water supply of settlements. Hygienic requirements for the

arrangement and operation of mine wells and catchments of springs. "Rehabilitation" of wells and disinfection of water in them. Hygienic characteristics of water resources and water supply sources in arid (arid) and humid (humidified) zones of the tropics. Features of physiological functions of water in the tropics (structural, exchange, transport, excretory, heat exchange and others). Hygienic requirements for drinking water quality and their features in tropical climates. International standard for drinking water quality and features of its use in the tropics. Hygienic characteristics of methods and means of purification, disinfection, special methods of water conditioning in the tropics.

Topic 9 "Soil hygiene and cleaning of settlements"

Soil, definition. Origin, formation, mechanical structure, physical properties and chemical composition of soil. Hygienic assessment of different types of soils. Geochemical, geoendemic characteristics of soils. Sources of soil pollution in modern conditions of industrialization and chemicalization of the national economy. Impact of contaminated soil on the health and sanitation of the population. The role of soil in the occurrence and spread of infectious diseases (anaerobic infections) and invasions. Soil and diseases of non-infectious etiology. Processes and indicators of soil self-cleaning. Assessment of soil sanitation according to chemical and biological indicators. Theoretical bases and methods of hygienic rationing - maximum permissible concentrations of harmful chemicals in the soil.

The importance of soil sanitation and sanitary protection of water bodies in the biosafety of the population. Principles of cleaning settlements. Systems and facilities for temporary storage, removal, disposal and utilization of solid and liquid waste of domestic and industrial origin. Liquid waste, their classification and sanitary-epidemiological significance. Sewerage of settlements, its importance in the prevention of infectious diseases. The impact of sewerage of settlements on the sanitary condition of the soil and living conditions of the population. General scheme and facilities for domestic wastewater treatment. Wastewater treatment and sanitary protection of reservoirs. Scientific bases of protection of open reservoirs. The concept of small sewerage and conditions of its use. Methods of disposal and utilization of industrial and radioactive waste. Hygienic requirements for places and types of burial of the dead. Hygienic characteristics of cremation.

Topic 10 “Nutrition as a factor of health. Scientific bases of rational nutrition. Features of nutrition of the population of different age groups, professions. Methods for calculating human energy consumption and nutrient needs. Assessment of food adequacy according to the menu layout. Biosafety issues in food hygiene ”

Physiological and hygienic basics of nutrition. The importance of nutrition for health and physical development. Theories of nutrition, food functions and types of nutrition. Scientific bases of rational nutrition. Biosafety issues in food hygiene. Alimentary pathology, its prevalence and classification. Methods for determining human energy consumption and needs in essential nutrients. Methods for determining the energy consumption of the elderly and their needs in essential nutrients. Methods for assessing the adequacy of nutrition according to the menu layout. Norms of physiological need for nutrients and energy for different groups of the population, their scientific substantiation. Features of the body's energy needs, quantity and ratio of nutrients in tropical climates. Principles of nutrition of people of different ages, mental and physical labor, students, athletes. Food in an environmentally unfavorable environment and harmful industries. Products and mixtures of baby food. Geroprotective products.

Topic 11 “Methods of studying and assessing the nutritional status of man and medical control over the provision of the body with vitamins. Prevention of alimentary and alimentary-conditioned diseases ”

The concept of rational, preventive, curative (dietary) and therapeutic and preventive nutrition, their basic principles. The concept of nutritional status of the organism and methods of its assessment. Bioethical aspects of human nutritional status assessment. Alimentary diseases, their classification (protein-energy deficiency, hypovitaminosis, avitaminosis), their clinical manifestations and prevention. Alimentary-caused diseases, prevention. General characteristics of diseases of alimentary origin among the population of tropical regions and methods and means of their prevention. Methods and means of medical control over the nutrition of certain groups of the population. Hygienic supervision of food of different age groups, professions. Methods of medical control over the nutrition of the population of tropical countries. Calculated methods of nutrition assessment and correction.

Topic 12 “Physiological and hygienic value of nutrients and hygienic characteristics of food products. Methods of investigation and prevention of food poisoning ” Physiological and hygienic role of proteins. Scientific substantiation of protein needs. Hygienic characteristics of proteins of animal and

vegetable origin. Protein quality indicators. Sources of proteins and essential amino acids. Physiological and hygienic role of fats. Quality indicators of fats of different origin. Physiological and hygienic role of polyunsaturated fatty acids, phosphatides, sterols. Scientific substantiation of the body's needs for fats. Sources of fats. Culinary fats. "Overheated fats." Physiological and hygienic role of carbohydrates. Scientific substantiation of the body's needs for simple and complex carbohydrates. Carbohydrate quality indicators. Sources of carbohydrates. The concept of refined and "protected" carbohydrates. Vitamins, mineral salts, flavors, their physiological and hygienic role. Sources of vitamins and minerals. Micro- and macroelementosis, their clinical manifestations and prevention. Hygienic characteristics of food products. Nutritional and biological value of food. Cereals, legumes and oilseeds, vegetables, fruits and berries. Meat and meat products. Fish, poultry and other foods. Eggs. Milk and dairy products. Milk fats. Hygienic assessment of food quality and safety. Hygienic characteristics of the most common foods in the tropics.

Scientific and technological progress and its impact on food quality. Genetically modified products and socio-hygienic problems associated with their use. Issues of food hygiene in the biosafety of the population. Food poisoning, their classification. Food poisoning of microbial nature. Food poisoning, etiology, pathogenesis, prevention. Bacterial toxicosis. Botulism, etiology, pathogenesis, prevention. Staphylococcal toxicosis, etiology, pathogenesis, prevention. Mycotoxicosis, their etiology, diagnosis, clinic, prevention. Food poisoning of non-microbial nature. Importance of food chains in migration of toxic and radioactive substances from various objects of environment to a human body. The value of residual chemicals in food. Prevention of food poisoning of microbial, non-microbial nature and unknown etiology, the responsibilities of the doctor in the investigation of food poisoning and their prevention. Instructional and legislative documents used in the investigation of food poisoning and their prevention. Issues of bioethics and biosafety in the investigation of food poisoning. The role of aerogenic, purulent diseases, healthy carriers of intestinal pathogens among the staff of food units in the occurrence of food poisoning of microbial nature and infections. Toxicological and epidemiological problems of nutrition of the population of tropical regions. Methods of food preservation, their hygienic characteristics. Food additives, their hygienic characteristics.

SECTION 3

HYGIENE OF CHILDREN AND ADOLESCENTS

Topic 13 “Current issues of hygiene of children and adolescents. Issues of bioethics and biosafety in the hygiene of children and adolescents ”

Environmental factors and social living conditions that affect the processes of forming the health of children and adolescents. Shifts in the state of health and morbidity, which are caused by the action of environmental factors and the conditions of students' stay in educational institutions. General patterns of growth and development of children and adolescents. Assessment criteria and health indicators for children and adolescents. Features of the distribution of children and adolescents by health groups. Physical development as an important criterion for assessing health. The main indicators of physical development. Rules of anthropometry. Requirements for tables of regional standards of physical development. The concept of biological and calendar age. Indicators of the level of biological development of children and adolescents. Modern ideas about acceleration and deceleration (retardation). Methods for assessing the physical development of children and adolescents. Methods for assessing the state of health and physical development of organized children's groups. Tasks of the doctor on the organization and carrying out of improving actions in children's collectives (schools, gymnasiums, lyceums, colleges, boarding schools, vocational schools (vocational schools), orphanages, preschool establishments, camps of work and rest, out-of-school establishments). Health management system for children and adolescents. The role of the family doctor in the formation of favorable hygienic conditions for the upbringing and education of the child.

Topic 14 "Hygienic assessment of the daily routine and educational process of children of different ages"

Anatomical-physiological and psychophysiological features of the body of children and adolescents of different ages and genders. Medical, physiological and psychological-pedagogical criteria for assessing the level of development of the child. Methods of studying age psychophysiological features of an organism of children and teenagers. Shifts in a state of health and the diseases caused by the irrational organization of educational process. The concept of school maturity. Hygienic bases and methods of determining the functional readiness of the child to study at school.

The concept of mode and basic regime elements. Features of hygienic rationing of daily activities of students. Hygienic principles of compiling and evaluating the daily routine of children and adolescents of different ages. Hygienic requirements for the organization of the educational process in modern secondary schools. Features of the educational process in gymnasiums, lyceums, children's sanatoriums and health facilities. Hygienic requirements for the organization of extracurricular activities and free time of students. Hygienic requirements for school schedules and methods of its evaluation. Hygienic requirements for the organization and methods of the lesson. Hygienic requirements for school textbooks and manuals.

Topic 15 "Methods of hygienic assessment of planning, equipment and maintenance of children's preschools, educational institutions, the fate of children and adolescents"

Hygienic requirements for the land plot, building and group section of the children's preschool institution. The principle of group isolation and its significance. Hygienic requirements for the land plot and the building of the general educational institution. The principle of functional zoning and its significance. Hygienic requirements for planning, arrangement, equipment, microclimate, ventilation, lighting and sanitation of the main premises of educational institutions. Hygienic requirements for educational furniture and their physiological justification. Rules for marking desks, other primary furniture and seating students. Hygienic requirements for the placement of school furniture in the school classroom. The main preventive measures to improve the sanitary and hygienic conditions of students in modern educational institutions.

Topic 16 "Methods of hygienic control over the organization of physical education and labor training of children and adolescents. Medical-professional consultation and medical professional selection of teenagers in the conditions of school and polyclinic "

Hygienic principles of rational organization of physical education of children and adolescents. Types, means and forms of physical culture in modern educational institutions. The concept of motor activity. Methods of quantitative measurement and hygienic assessment of motor activity. Prevention of hypokinesia. Physiological and hygienic bases of assessment of a lesson of physical culture. Hygienic requirements for places of physical education classes. Medical control over the organization of physical education classes and hygienic aspects of medical support of physical education of children and adolescents. Physiological and hygienic bases of hardening of an organism of children and teenagers. Basic types, principles and methods of organization of hardening .. Hygienic principles of rational organization of labor and polytechnic education of children and adolescents. Physiological and hygienic bases of control over labor training of schoolchildren. Hygienic requirements for the content, mode and conditions of organization and conduct of labor training in different types of modern educational institutions. Vocational guidance as a hygienic problem. Professiography. Modern system of professional orientation, its functions and leading components. Scientific bases of carrying out medical and professional consultation. The concept of professional selection. Methods for predicting professional success.

SECTION 4
CURRENT ISSUES OF OCCUPATIONAL HYGIENE

Topic 17 "Current issues of occupational health. Biosafety in occupational health. Methods of hygienic assessment of the severity and intensity of work.

Work and labor, definition of concepts, socio-hygienic significance of labor. Physiology of labor, harmful factors of the labor process. Changes in physiological processes in the human body during work and their physiological and hygienic assessment. Fatigue and overfatigue, measures to prevent fatigue. The concept of occupational hazards and occupational diseases, their classification. Diseases associated with high levels of nervous and mental stress, intensification of production processes. Workplace organization. Monotony of work, its prevention. Forced posture, tension of individual organs and systems and prevention of related diseases. The concept of difficulty and intensity of work. Ergonomics. Physiological and hygienic features of the work of an elderly person. Indicators of the severity and intensity of work of the elderly and their changes during employment. The influence of adverse factors of the production environment on the rate of aging of the employee. Hygienic requirements for the mode of operation. Sanitary legislation on labor protection. (Labor Code of Ukraine). Issues of bioethics and biosafety in occupational health. Features of the organization and mode of work in the arid and humid climate of the tropical zone. Microclimate parameters at which the performance of physical labor becomes impossible.

Topic 18 "Methods of hygienic assessment of hazardous and harmful factors of the production environment and the body's response to their impact."

Industrial dust, effects on the body, prevention of dust pathology. Industrial toxicology. Issues of bioethics and biosafety in occupational health. Methods of hygienic assessment of physical factors of the production environment. Features of occupational health in various industries and agriculture. Pesticides, agrochemicals and biosafety of the population ". Harmful and dangerous factors of working conditions and production environment. Influence of physical factors of the production environment (noise, vibration, high-frequency electromagnetic oscillations, etc.) on the health of workers. "Noise" disease and its prevention. Vibration disease and its prevention. Electromagnetic fields of radio frequencies and industrial frequency. Prevention of adverse effects of electromagnetic fields. Laser radiation. Impact on human health of computer equipment, mobile phones, hygienic rules of their operation. Industrial microclimate, factors that determine it, the impact of adverse microclimate on the health of workers, preventive measures. Features of occupational hygiene at low and high atmospheric pressure. Altitude, mountain, decompression, caisson diseases, their prevention. Methods for determining dust, chemical pollution of the production environment. Chemical factors of the production environment. Carcinogenic, mutagenic, allergenic factors in production, prevention of their harmful effects. Industrial dust, its classification, prevention of harmful effects. Industrial toxicology. Complex, combined, combined action of industrial hazards. Biological factors in production, prevention of their adverse effects. Hygienic requirements for heating, ventilation and lighting of industrial premises. Methods and means of prevention of occupational injuries. Issues of bioethics and biosafety in the prevention of harmful and dangerous factors of the production environment. Occupational poisoning and their prevention. Occupational health in the main branches of industrial and agricultural production, women and adolescents, the elderly and the disabled. Prevention of acute and chronic pesticide poisoning. Requirements for pesticides with regard to environmental biosafety.

Means of individual protection against harmful and dangerous factors of the production environment (protection of body, sight, hearing, respiratory organs). Industrial toxicology. Complex, combined, combined action of industrial hazards. Scheme of toxicological evaluation of chemicals. Toxicity indicators. The concept of cumulative properties and long-term consequences.

SECTION 5

HYGIENE OF TREATMENT AND PREVENTION INSTITUTIONS AND PREVENTION OF IN-HOSPITAL INFECTIONS

Topic 19 "Hygiene of medical and preventive institutions and prevention of nosocomial infections. Safety issues in the activities of treatment and prevention facilities. Hygienic assessment of the location and planning of individual structural units of the hospital on the basis of the project "The importance of optimal hygiene regime of treatment and prevention facilities to improve the effectiveness of treatment, prevention of nosocomial infections, HIV, creating safe working conditions and improving them. Modern hospital building systems (centralized, block, decentralized, pavilion, mixed), their comparative hygienic assessment, prospects for improvement. Hygienic requirements for land plots of hospitals. The concept of situational and general plans for hospitals, hygienic requirements for the main indicators of development (distance from sources of air pollution, soil, area, density of buildings and landscaping, placement of buildings, sanitation), functional zoning. Measures to prevent nosocomial infections. Hygienic requirements for the planning, equipment and mode of operation of the therapeutic department, reception departments (for somatic, infectious, children's departments). Ward section, its composition, hospital ward, options for its planning and equipment for somatic patients. Hygienic requirements for the area, cubature of chambers, their scientific substantiation. Requirements for the orientation of chamber windows, microclimate, air environment, lighting, heating, ventilation, noise regime. Standards of lighting, microclimate, carbon dioxide content as an indicator of chemical air pollution, bacterial contamination. Features of collection, temporary storage, removal and disposal of waste from treatment and prevention facilities (wastewater, waste surgical, infectious and other departments), their features in rural hospitals, separately located health facilities. Sources of environmental pollution by medical and pharmaceutical waste, danger to the environment and humans. State sanitary and anti-epidemic rules and norms on medical waste management. Categories of medical waste. Stages of the waste management system. Ways to dispose of medical and pharmaceutical waste. Drugs as pollutants for the environment, their utilization.

Topic 20 "Features of planning and arrangement of specialized hospitals and departments"

Hygienic requirements for the land plot of specialized hospitals (infectious, children's, psychiatric) and dispensaries (tuberculosis, oncology, etc.). Hygienic requirements for the construction, planning and

operation of infectious, pediatric, obstetric, surgical and outpatient departments of the hospital. Features of planning of boxes, semi-boxes in infectious, children's departments of hospital.

Topic 21 "Hygienic assessment of the conditions of patients and occupational health of medical workers in treatment and prevention facilities"

Sanitary and anti-epidemic regime in the hospital, clinic. Hygienic requirements for personal hygiene of patients. Requirements for the regime of prevention of respiratory and intestinal diseases among patients and staff during epidemics. Mode, methods and means of wet cleaning of premises with the use of antiseptic drugs, ventilation of premises, isolation of patients. Hygienic requirements for sanitary equipment, mode of operation of therapeutic and surgical departments, operating rooms, children's, infectious and other specialized departments. Hygienic criteria of microclimate, heating, ventilation, lighting of hospital premises, water supply, sewerage. Criteria for assessing microbial air pollution in hospitals. Occupational health and health of medical workers. Harmful and dangerous factors of professional activity of medical workers. Hygienic features of working conditions and state of health of specialists of surgical, therapeutic profile, infectious disease specialists, psychoneurologists, doctors of polyclinic departments, dentists, family doctors. Occupational and occupational diseases of medical workers. Measures to improve the working conditions of medical workers.

Topic 22 "Primary prevention of HIV infection"

The place of HIV infection in the infectious morbidity of the population. Sources of the pathogen. Ways and factors of HIV transmission. Contingents at risk of disease. Incidence of HIV (AIDS) in Ukraine. Primary prevention of HIV infection. Measures to prevent HIV infection in medical institutions. Prevention of HIV infection due to injecting drug use. Methods of prevention work among schoolchildren, adolescents and young people in relation to HIV prevention. The role of sanitary and educational work.

Topic 23 “Hygienic bases of treatment-and-prophylactic and medical nutrition. Organization of food in medical institutions ”

Therapeutic nutrition, Principles of construction, purpose, types, rations. The composition of the diets of therapeutic and preventive nutrition. Therapeutic and dietary nutrition as an element of complex drug and dietary therapy, a means of preventing complications and recurrences of diseases. The value of proteins, fats, carbohydrates, minerals and vitamins in medical nutrition. Pharmacological action of food. Basic principles of construction of medical food. Modern requirements for the improvement of medical (dietary) nutrition in treatment and prevention facilities. Order of the Ministry of Health of Ukraine № 931 dated 29.10.2013 “On improving the organization of medical nutrition and the work of the dietary system in Ukraine”. Types of food blocks. Sanitary and hygienic requirements for the planning of production equipment and maintenance of food premises. Hygiene of technological process of food processing. Medical control over the procurement, storage of food, cooking, ensuring the quality and taste of food and ready meals, their distribution to the department. Sanitary and hygienic requirements for transportation of ready meals from the kitchen to the ward. Sampling and assessment of the completeness and good quality of dishes by the doctor on duty. Organization of medical nutrition in medical and preventive institutions. Responsibilities of hospital diet staff.

SECTION 6
CURRENT ISSUES OF RADIATION HYGIENE

Topic 24 “Current issues of radiation hygiene. Issues of bioethics and biosafety in the use of ionizing radiation. Radiation pollution. Hygienic aspects of the Chernobyl accident ”

The urgency of hygienic problems of radiation protection of workers with industrial sources of ionizing radiation and radiation safety of the population. Physical bases of radiation safety and radiation protection: essence and nature of radioactivity, types of nuclear transformations, ionizing radiation, their qualitative and quantitative characteristics, use in practical activity. Qualitative and quantitative characteristics of radionuclides. Hygienic characteristics of ionizing radiation and their sources. The essence and features of the interaction of ionizing radiation with substances, the practical use of this knowledge. Biological action of ionizing radiation, its features and basic conditions on which it depends. Deterministic and stochastic effects of human exposure, conditions of their occurrence. Ionizing radiation as an environmental factor, their sources (natural, man-made, natural, industrial), their characteristics. Radiation background. Regularities of formation of radiation load of the population, its hygienic assessment, ways of reduction. Issues of bioethics and biosafety in the use of ionizing radiation. l Radiation safety of the population in its places of residence. Radiation safety of the population in its places of residence, the factors

that determine it (chronic exposure to man-made sources of natural origin, medical exposure, radioactive contamination of the environment). Natural radionuclide radon and medical X-ray radiological diagnostic procedures for the population as the main components of human radiation exposure, their hygienic assessment and special measures to reduce radiation exposure in humans due to these factors.

The concept of living in Ukraine in connection with the Chernobyl disaster The Chernobyl disaster and its consequences for public health and the environment. Hygienic aspects of life, food, work and leisure of the population living in areas that have been exposed to radioactive contamination. The concept of living in the territories of Ukraine with high levels of radioactive contamination due to the Chernobyl disaster and the Laws of Ukraine on the legal regime of these territories and the legal status of the affected population.

Topic 25 "Methods and means of radiation control - calculation and instrumental. Estimated methods for assessing radiation safety and parameters of protection against external radiation "

Ionizing radiation as an industrial hazard. Conditions on which the radiation hazard depends when working with radionuclides and other sources of ionizing radiation. Measures of protection against external radiation, based on the physical laws of its attenuation (protection by quantity, time, distance, shielding). Principles underlying the choice of material and calculation of the thickness of protective screens from β, γ, X-rays. The value of calculation methods for radiation hazard assessment and parameters of protection against external radiation in a set of measures for radiation protection of personnel.

Topic 26 "Hygienic assessment of radiation protection of personnel and radiation safety of patients with the use of ionizing radiation in medical institutions"

Ionizing radiation as an industrial hazard. Conditions on which the radiation hazard depends when working with radionuclides and other sources of ionizing radiation. Closed sources of ionizing radiation, their purpose, features of radiation danger and radiation protection when working with them (external irradiation). Open sources of ionizing radiation, their purpose, features of radiation danger and radiation protection when working with them (external and internal radiation). Radiation protection of personnel and radiation safety of patients in radiological departments of medical institutions. Features of radiation safety and radiation protection in the structural units of the radiology department of the hospital. Radiation and medical control when working with radionuclides and other sources of ionizing radiation, its organizational forms, types, programs, devices, criteria for evaluating results, guidelines. Hygienic standardization of ionizing radiation, scientific concepts on which it is based. Basic Provisions of "Radiation Safety Standards of Ukraine (NRBU - 97)" and "Basic Sanitary Rules for Preservation of Radiation Safety of Ukraine (OSPU - 2005)".

SECTION 7

GENERAL REGULARITIES OF HUMAN ADAPTATION TO DIFFERENT ENVIRONMENTAL CONDITIONS

Topic 27 "The main sources, ways, scales of environmental pollution. Natural and anthropogenic catastrophes. Organization of sanitary and hygienic measures in emergencies "

The main sources, ways, scales of environmental pollution. Classification of emergencies by origin, scale, speed of development. Natural disasters, anthropogenic catastrophes. Chemical disasters, nuclear accidents. Accident at the Chernobyl nuclear power plant. Environmental and medical consequences of disasters. International organizational structures for liquidation and medical support of the consequences of the catastrophe, national formations for liquidation of emergencies in Ukraine. Sanitary and hygienic measures in the center of emergencies. Measures aimed at preserving the health and efficiency of liquidators. Substantiation of different-time and emergency MPCs for emergency responders and the population. Individual means of protection in case of fires and consequences of emergencies. Working conditions of liquidators in the emergency center.

Topic 28 "General patterns of human adaptation to different environmental conditions. Ecologically conditioned and ecologically dependent diseases "

Human ecology in different climatic conditions. General patterns of adaptation of the human body to different environmental conditions. Stress, eustress, distress. Urban ecology. Urbanization, its positive and negative aspects. Biosphere degradation in large cities. Ecology of housing. Landscaping of cities. Pollution of the environment and human health. The role of environmental factors in shaping human health. Human health as an integral indicator of the state of the environment. Influence of abiotic, biotic and anthropogenic factors on human health and life expectancy. Demographic problems of Ukraine. The concept of

environmentally friendly and environmentally dependent diseases. The state of health of the population of Ukraine in connection with environmental pollution.

Topic 29 "Methodological and methodological foundations of the study of health depending on the state of the environment"

The concept of "methodology", its application in hygiene. Surveillance areas to study health depending on the state of the environment. Definition, requirements for choice. Methods of integrated assessment of the state of the environment. Methods of longitudinal and transverse epidemiological research, definition, essence, types. Impact of polluted air, water and soil on public health; methods of its detection. Stages of identifying and assessing the relationship of environmental factors to public health. Environmental risk factors, their classification and impact on public health. The concept of risks (relative, attributive, population). Schemes for studying the impact of environmental factors on public health. Biomarkers as indicators of exposure to environmental factors. Definition of "health", its criteria. Indicators that characterize the health of the population. Criteria for dividing the population by health groups. Methods for determining the integrated health index.

Topic 30 “Healthy lifestyle, personal hygiene. Physical culture, basics of hardening. Hygiene of clothes and shoes. Hygienic assessment of detergents, fabrics and household, industrial and hospital clothing Prevention of alcoholism, drug addiction, substance abuse, smoking ”

Healthy lifestyle, definition, content. Personal hygiene as a branch of hygienic science, its content and significance for maintaining and promoting health in modern conditions. Body, skin and hair hygiene. Oral and dental hygiene, care products, their hygienic assessment. Baths as a means of maintaining cleanliness and stimulating the physiological functions of the skin. Modern detergents, their hygienic assessment. Hygienic requirements for clothing and footwear for different age groups. Comparative hygienic characteristics of clothing and footwear made of natural and artificial fabrics and materials. Features of personal hygiene in the arid and humid climate of the tropics. Hardening. The main factors of hardening. Principles, methods and means of hardening with the use of natural factors (solar radiation, air, water, etc.). Requirements for the organization, planning and operation of solariums and photo booths. Hygienic assessment of steam and dry baths. Prevention of hypokinesia. Physical culture as one of the most important elements of personal hygiene in modern conditions. Types of physical culture, hygienic value of morning gymnastics, stay and walks in the fresh air. Organization of hygienic control over the dosage of physical activity. Medical and social problems, ways and means of prevention of active and passive tobacco smoking, alcohol abuse, drug addiction and drug addiction. The main ways and means of hygienic training and education of different groups of the population. Features of personal hygiene in the arid and humid climate of the tropics.

Topic 31 "Psycho-hygienic foundations of everyday human activity"

Fundamentals of psychohygiene. Age psychohygiene. Psychoprophylaxis. Features of the influence of hereditary and environmental factors on the mental health of children and adolescents. The structure of the features of human personality (properties of temperament and character, motivational orientation, features of the nervous and mental state, etc.). Psychohygienic principles of rational organization of educational and professional activities. Iatrogenic, therapeutic and prophylactic meaning of the word in everyday life, at work, in communication between doctor and patient. Autotraining.

Topic 32 "Scientific foundations of medical biorhythmology and chronohygiene"

Biological rhythms and state of health. Prerequisites and causes of medical biorhythmology as a science. Basic biorhythmological types. Desynchronosis as the main type of chronopathology. Types of desynchronoses. Biorhythmological principles of rational organization of educational and professional activity. Combination of training time with the time of optimum physiological functions of the body. Motor activity as a synchronizer of biological rhythms. Rational organization of free time as an important factor in the implementation of the amplitude-phase program of biorhythms. Chronohygiene as a basis for prevention of desynchronoses. Psychohygienic bases of scientific organization of mental and operator work.

The structure of the discipline

Тема	Lectures	Practical classes	Independent work
Section 1. Hygiene as a science			

1. Hygiene as a science, its purpose, objectives, content, methods of hygienic research. Ecology as a science, its purpose, tasks, content, connection with other sciences	1	-	2
2. Scientific bases and principles of hygienic rationing. Hygienic rationing of chemicals in atmospheric air, air of a working zone, water of reservoirs, soil and foodstuff	1	2	2
3. History of formation and development of hygiene. The modern period of hygiene development	-	-	2
4. Hygienic value of solar radiation	1	2	2
5. Hygienic value of biosphere components (atmosphere, hydrosphere, lithosphere)	-	2	2
6. Hygienic significance of climate, weather, their impact on public health		2	2
Section 2. Scientific bases and principles of hygienic rationing			
1. Hygiene of populated areas. Housing hygiene. Microclimate, heating, ventilation, natural and artificial lighting, methods of their measurement and hygienic assessment	1	4	4
2. Water hygiene and water supply	1	4	2
3. Soil hygiene and cleaning of settlements	1	2	2
4. Nutrition as a factor of health. Scientific bases of rational nutrition. Features of nutrition of the population of different age groups, professions. Methods for calculating human energy consumption and nutrient needs. Assessment of food adequacy according to the menu layout. Biosafety issues in food hygiene	1	2	2
5. Methods of studying and assessing the nutritional status of man and medical control over the provision of the body with vitamins. Prevention of alimentary and alimentary-caused diseases	-	2	2
6. Physiological and hygienic value of nutrients and hygienic characteristics of food products. Methods of investigation and prevention of food poisoning	1	2	4
Total hours - 60. ECTS credits - 2.0	**8**	**24**	**28**
Section 3. Hygiene of children and adolescents			
1. Topical issues of hygiene of children and adolescents. Issues of bioethics and biosafety in the hygiene of children and adolescents	1	1	1
2. Hygienic assessment of the daily routine and educational process of children of different ages	1	1	1
3. Methods of hygienic assessment of planning, equipment and maintenance of children's preschool institutions, educational institutions the fate of children and adolescents	-	1	1
4. Methods of hygienic control over the organization of physical education and labor training of children and adolescents. Medical and professional consultation and medical professional selection of adolescents in the school and clinic	-	1	2
Section 4. Current issues of occupational health			
1. Biosafety in occupational health. Methods of hygienic assessment of the severity and intensity of work	1	1	1
2. Methods of hygienic assessment of hazardous and harmful factors of the production environment and the body's response to their impact	-	2	2
Section 5. Hygiene of medical and preventive institutions and prevention of nosocomial infections			
1. Safety issues in the activities of treatment and prevention facilities. Hygienic assessment of the location and planning of individual structural units of the hospital according to the project materials	1	1	1
2. Features of planning and arrangement of specialized hospitals and departments	-	1	1
3. Hygienic assessment of the conditions of stay of patients and occupational health of medical workers in treatment and prevention facilities	-	1	1
4. Primary prevention of HIV infection	-	1	1
5. Hygienic bases of treatment-and-prophylactic and medical nutrition. The organization of food in medical institutions	1	1	1
Section 6. Current issues of radiation hygiene			

1. Current issues of radiation hygiene. Issues of bioethics and biosafety in the use of ionizing radiation. Radiation pollution. Hygienic aspects of the Chernobyl accident	1	1	2
2. Methods and means of radiation control - calculation and instrumental. Calculated methods for assessing radiation safety and parameters of protection against external radiation	-	2	2
3. Hygienic assessment of radiation protection of personnel and radiation safety of patients with the use of ionizing radiation in medical institutions	-	1	2
Section 7. General patterns of human adaptation to different environmental conditions			
1. The main sources, ways, scales of environmental pollution. Natural and anthropogenic catastrophes. Organization of sanitary and hygienic measures in emergencies	1	2	2
2. General patterns of human adaptation to different environmental conditions. Ecologically conditioned and ecologically dependent diseases	1	1	1
3. Methodological and methodological bases of studying health depending on the state of the environment	-	2	2
4. Healthy lifestyle, personal hygiene. Physical culture, basics of hardening. Hygiene of clothes and shoes. Hygienic assessment of detergents, fabrics and household, industrial and hospital clothing Prevention of alcoholism, drug addiction, substance abuse, smoking	-	1	1
5. Psychohygienic bases of daily human activity	-	1	1
6. Scientific bases of medical biorhythmology and chronohygiene	-	1	2
FINAL CONTROL OF BLOCK 2 - EXAM			
Total hours - 60 ECTS Credits - 2.0	**8**	**24**	**28**

4. The content of the discipline

4.1. Lecture plan

БЛОК 1

№ s / n	Topic	Number hours
1	**Topic 1.** Hygiene as a science, its purpose, objectives, content, methods of hygienic research. Ecology as a science, its purpose, tasks, content, connection with other sciences. 1) Preventive orientation of domestic medicine, public and personal prevention, primary, secondary and tertiary, defining priorities. 2) The importance of knowledge of hygiene for the formation of professional thinking and practice of doctors of different specialties. The concept of methodology as a doctrine of scientific knowledge of reality. 1) 3) Methods and techniques of hygienic research, their classification. Methods of studying the state of the environment and its hygienic assessment, methods of studying the impact of the environment on human health. Sanitary legislation.	**1**
2	**Topic 2.** Scientific bases and principles of hygienic rationing. Hygienic rationing of chemicals in atmospheric air, air of a working zone, water of reservoirs, soil and foodstuff 1) The concept of hygienic regulation in meteorology and climatology, physical factors of the biosphere (infrared, ultraviolet, electromagnetic, ionizing radiation, noise, vibration) 2) The value of hygienic rationing of harmful chemicals. 1) 3) Methodical schemes, principles and methods of hygienic rationing in different environments.	**1**
3	**Topic 4.** Hygienic value of solar radiation. 1) Hygienic value of infrared radiation of the Sun, pathology caused by its excessive action, its prevention. Infrared radiation of artificial origin and the use of its sources in medicine. 2) Hygienic value of visible radiation of the Sun and its use in medicine, devices for determination. Biosafety issues of solar radiation application. 1) 3) Hygienic value of ultraviolet radiation of the Sun and its use in medicine, devices for determination.	**1**

4	**Topic 7** Hygiene of populated areas. Housing hygiene. Microclimate, heating, ventilation, natural and artificial lighting, methods of their measurement and hygienic assessment. 1) Microclimate and its hygienic value. Types and influence of uncomfortable (cooling and heating) microclimate on human heat exchange and health. 2) Calculation methods for assessing the impact of tropical climate on the thermal state of the organism. 3) Hygienic value of natural and artificial lighting in residential and public premises, their hygienic assessment. 1) 4) Methods of determination and hygienic assessment of dust, chemical and bacteriological air pollution.	**1**
5	**Topic 8** Water hygiene and water supply. 1) Scientific substantiation of drinking water quality standards. 2) State sanitary rules and norms of drinking water quality. 3) Epidemiological significance of water. The role of water and water supply conditions in the spread of infectious diseases. 4) Classification of infectious diseases, the causative agents of which are transmitted by water (cholera, typhoid fever, dysentery, etc.). 1) 5) Sources of water supply, their comparative hygienic characteristics.	**1**
6	**Topic 9** Soil hygiene and cleaning of settlements. 1) Sanitary requirements for water used in pharmacy. Physiological, economic, hygienic, epidemiological significance of water. 2) The concept of biogeochemical endemics. Standardization of drinking water quality in Ukraine. 3) Methods of water purification. Methods of water disinfection. Hygienic requirements for water used in pharmacy.	**1**
7	**Topic 10** Food hygiene, its environmental and social problems. Methods for assessing the nutritional status of man, his needs for nutrients and energy. Hygienic basics of medical, dietary and therapeutic nutrition. 1) Physiological and hygienic basics of nutrition. The importance of nutrition for health and physical development. 2) Theories of nutrition, food functions and types of nutrition. Scientific bases of rational nutrition. Biosafety issues in food hygiene. Alimentary pathology, its prevalence and classification. 3) Theories of nutrition, food functions and types of nutrition. Scientific bases of rational nutrition. 1) 4) Biosafety issues in food hygiene. Alimentary pathology, its prevalence and classification.	**1**
8	**Topic 12** Physiological and hygienic value of nutrients and hygienic characteristics of food products. 1) Methods of investigation and prevention of food poisoning. Nutritional status, assessment methods. 2) Types of food, nutrition. Dietary and therapeutic nutrition. 3) Degrees of food quality. Food poisoning.	**1**
	Разом	**8**

BLOCK 2		
№ s / n	**Topic**	**Number hours**
1	**Topic 13** Hygiene of children and adolescents. Patterns of growth and development of the child's body. Hygiene of labor, physical, psychophysiological training and education of children and adolescents. Methods of their hygienic assessment. 1) Shifts in the state of health and morbidity, which are caused by the action of environmental factors and the conditions of students' stay in educational institutions. 2) General patterns of growth and development of children and adolescents. Assessment criteria and health indicators for children and adolescents. 1) 3) Features of the distribution of children and adolescents by health groups. Physical development as an important criterion for assessing health. The main indicators of physical development. Rules of anthropometry. Requirements for tables of regional standards of physical development.	**1**
2	**Topic 14** Hygienic assessment of the daily routine and educational process of children of different ages 1) Anatomical-physiological and psychophysiological features of the body of children and adolescents of different ages and genders. 2) Medical, physiological and psychological-pedagogical criteria for assessing the level of development of the child. Methods of studying age psychophysiological features of an organism of children and teenagers. 3) Shifts in health and diseases caused by irrational organization of the educational process.	**1**
3	**Topic 17** Current issues of occupational health. Biosafety in occupational health. Methods of hygienic assessment of the severity and intensity of work 1) Work and labor, definitions, socio-hygienic significance of labor. 2) Physiology of labor, harmful factors of the labor process. Changes in physiological processes in the human body during work and their physiological and hygienic assessment. 1) 3) The concept of occupational hazards and occupational diseases, their classification. Diseases associated with high levels of nervous and mental stress, intensification of production processes. Workplace	**1**

	organization. Monotony of work, its prevention	
4	**Topic 19** Hygiene of treatment and prevention facilities and prevention of nosocomial infections. Safety issues in the activities of treatment and prevention facilities. 1) Hygienic assessment of the location and planning of individual structural units of the hospital according to the project materials 2) The importance of the optimal hygienic regime of treatment and prevention facilities to increase the effectiveness of treatment of patients, prevention of nosocomial infections, HIV infection, creating safe working conditions for staff and their improvement. 3) Modern hospital building systems (centralized, block, decentralized, pavilion, mixed), their comparative hygienic assessment, prospects for improvement.	**1**
5	**Topic 23** Hygienic basics of treatment and prevention and therapeutic nutrition. The organization of food in medical institutions 1) Therapeutic and preventive nutrition. 2) Principles of construction, purpose, types, rations. The composition of the diets of therapeutic and preventive nutrition. 1) 3) Therapeutic and dietary nutrition as an element of complex drug and dietary therapy, a means of preventing complications and recurrences of diseases.	**1**
6	**Topic 24** Current issues of radiation hygiene. Issues of bioethics and biosafety in the use of ionizing radiation. Radiation pollution. Hygienic aspects of the Chernobyl accident 1) The urgency of hygienic problems of radiation protection of workers working with industrial sources of ionizing radiation and radiation safety of the population. 2) Physical foundations of radiation safety and radiation protection: the essence and nature of radioactivity, types of nuclear transformations, ionizing radiation, their qualitative and quantitative characteristics, use in practice. 3) Qualitative and quantitative characteristics of radionuclides. Hygienic characteristics of ionizing radiation and their sources.	**1**
7	**Topic 27** The main sources, ways, scales of environmental pollution. Natural and anthropogenic catastrophes. Organization of sanitary and hygienic measures in emergencies 1) The main sources, ways, scales of environmental pollution. 2) Classification of emergencies by origin, scale, speed of development. Natural disasters, anthropogenic catastrophes. Chemical disasters, nuclear accidents. Accident at the Chernobyl nuclear power plant. 1) 3) Environmental and medical consequences of disasters. International organizational structures for liquidation and medical support of the consequences of the catastrophe, national formations for liquidation of emergencies in Ukraine.	**1**
8	**Topic 28** General patterns of human adaptation to different environmental conditions. Ecologically conditioned and ecologically dependent diseases 1) Human ecology in different climatic conditions. General patterns of adaptation of the human body to different environmental conditions. 2) Degradation of the biosphere in large cities. Ecology of housing. Landscaping of cities. Pollution of the environment and human health. The role of environmental factors in shaping human health. 3) The impact of abiotic, biotic and anthropogenic factors on human health and life expectancy. The concept of environmentally friendly and environmentally dependent diseases.	**1**
	Together	**8**

4.2. Plan of practical classes

BLOCK 1

№ s / n	Topic	Number hours
1	**Topic 2.** Scientific bases and principles of hygienic rationing. Hygienic rationing of chemicals in atmospheric air, air of a working zone, water of reservoirs, soil and foodstuff 1) The concept of hygienic regulation in meteorology and climatology, physical factors of the biosphere (infrared, ultraviolet, electromagnetic, ionizing radiation, noise, vibration) 2) The value of hygienic rationing of harmful chemicals. **1)** 3) Methodical schemes, principles and methods of hygienic rationing in different environments.	2
2	**Topic 4.** Hygienic value of solar radiation. 1) Hygienic value of infrared radiation of the Sun, pathology caused by its excessive action, its prevention. Infrared radiation of artificial origin and the use of its sources in medicine. 2) Hygienic value of visible radiation of the Sun and its use in medicine, devices for determination. Biosafety issues of solar radiation application. 3) Hygienic value of ultraviolet radiation of the Sun and its use in medicine, devices for determination.	2
3	**Topic 5.** Hygienic value of biosphere components (atmosphere, hydrosphere, lithosphere). 1) Electrical state of the atmosphere (ionization of air, electric field of the Earth, geomagnetic field,	

	electromagnetic fields of radio frequencies and others), its hygienic value. 2) Denaturation of the biosphere. The main sources, types and consequences of anthropogenic air pollution and indoor air. 1) 3) Characteristics of sources of air pollution in the village. Regularities of distribution of pollution in the atmosphere, factors on which the level of air pollution depends.	2
4	**Topic 6** Hygienic significance of climate, weather, their impact on public health 1) The basic patterns of weather formation. Factors that shape and characterize the weather. 2) Medical weather classifications. Heliometeotropic reactions of healthy and sick people. Prevention of heliometeotropic reactions: permanent, seasonal, urgent. 1) 3) Climate, definition. Factors that shape and characterize the climate. General and applied (medical, construction) classifications of climate.	2
5	**Topic 7** Hygiene of populated areas. Housing hygiene. Microclimate, heating, ventilation, natural and artificial lighting, methods of their measurement and hygienic assessment. 1) Microclimate and its hygienic value. Types and influence of uncomfortable (cooling and heating) microclimate on human heat exchange and health. 2) Calculation methods for assessing the impact of tropical climate on the thermal state of the organism. 3) Hygienic value of natural and artificial lighting in residential and public premises, their hygienic assessment. 4) Methods of determination and hygienic assessment of dust, chemical and bacteriological air pollution.	4
6	**Topic 8** Water hygiene and water supply. 1) Scientific substantiation of drinking water quality standards. 2) State sanitary rules and norms of drinking water quality. 3) Epidemiological significance of water. The role of water and water supply conditions in the spread of infectious diseases. 4) Classification of infectious diseases, the causative agents of which are transmitted by water (cholera, typhoid fever, dysentery, etc.). 1) 5) Sources of water supply, their comparative hygienic characteristics.	4
7	**Topic 9** Soil hygiene and cleaning of settlements. 1) Sanitary requirements for water used in pharmacy. Physiological, economic, hygienic, epidemiological significance of water. 2) The concept of biogeochemical endemics. Standardization of drinking water quality in Ukraine. 3) Methods of water purification. Methods of water disinfection. Hygienic requirements for water used in pharmacy.	2
8	**Topic 10** Food hygiene, its environmental and social problems. Methods for assessing the nutritional status of man, his needs for nutrients and energy. Hygienic basics of medical, dietary and therapeutic nutrition. 1) Physiological and hygienic basics of nutrition. The importance of nutrition for health and physical development. 2) Theories of nutrition, food functions and types of nutrition. Scientific bases of rational nutrition. Biosafety issues in food hygiene. Alimentary pathology, its prevalence and classification. 3) Theories of nutrition, food functions and types of nutrition. Scientific bases of rational nutrition. 1) 4) Biosafety issues in food hygiene. Alimentary pathology, its prevalence and classification.	2
9	**Topic 11** Methods of studying and assessing the nutritional status of man and medical control over the provision of the body with vitamins. Prevention of alimentary and alimentary-caused diseases. 1) General characteristics of diseases of alimentary origin among the population of tropical regions and methods and means of their prevention. Methods and means of medical control over the nutrition of certain groups of the population. 2) Methods and means of medical control over the nutrition of certain groups of the population. 3) Hygienic supervision of nutrition of different age groups, professions. Methods of medical control over the nutrition of the population of tropical countries. Calculated methods of nutrition assessment and correction.	2
10	**Topic 12** Physiological and hygienic value of nutrients and hygienic characteristics of food products. 1) Methods of investigation and prevention of food poisoning. Nutritional status, assessment methods. 2) Types of food, nutrition. Dietary and therapeutic nutrition. 3) Degrees of food quality. Food poisoning.	2

4.2. Plan of practical classes

BLOCK 2

№ s / n	Topic	Number hours
1	**Topic 13** Current issues of hygiene of children and adolescents. Issues of bioethics and biosafety in the hygiene of children and adolescents	1

2	**Topic 14** Hygienic assessment of the daily routine and educational process of children of different ages	1
3	**Topic 15** Methods of hygienic assessment of planning, equipment and maintenance of children's preschool institutions, educational institutions the fate of children and adolescents	1
4	**Topic 16** Methods of hygienic control over the organization of physical education and labor training of children and adolescents. Medical and professional consultation and medical professional selection of adolescents in the school and clinic	1
5	**Topic 17** Biosafety in occupational health. Methods of hygienic assessment of the severity and intensity of work	1
6	**Topic 18** Methods of hygienic assessment of hazardous and harmful factors of the production environment and the body's response to their impact	2
7	**Topic 19** Safety issues in the activities of treatment and prevention facilities. Hygienic assessment of the location and planning of individual structural units of the hospital according to the project materials	1
8	**Topic 20** Features of planning and arrangement of specialized hospitals and departments	1
9	**Topic 21** Hygienic assessment of the conditions of stay of patients and occupational health of medical workers in treatment and prevention facilities	1
10	**Topic 22** Primary prevention of HIV infection	1
11	**Topic 23** Hygienic basics of treatment and prevention and therapeutic nutrition. The organization of food in medical institutions	1
12	**Topic 24** Current issues of radiation hygiene. Issues of bioethics and biosafety in the use of ionizing radiation. Radiation pollution. Hygienic aspects of the Chernobyl accident	1
13	**Topic 25** Methods and means of radiation control - calculation and instrumental. Calculated methods for assessing radiation safety and parameters of protection against external radiation	2
14	**Topic 26** Hygienic assessment of radiation protection of personnel and radiation safety of patients with the use of ionizing radiation in medical institutions	2
15	**Topic 27** The main sources, ways, scales of environmental pollution. Natural and anthropogenic catastrophes. Organization of sanitary and hygienic measures in emergencies	2
16	**Topic 28** General patterns of human adaptation to different environmental conditions. Ecologically conditioned and ecologically dependent diseases	1
17	**Topic 29** Methodological and methodological bases of studying health depending on the state of the environment	2
18	**Topic 30** Healthy lifestyle, personal hygiene. Physical culture, basics of hardening. Hygiene of clothes and shoes. Hygienic assessment of detergents, fabrics and household, industrial and hospital clothing Prevention of alcoholism, drug addiction, substance abuse, smoking	1
19	**Topic 31** Psychohygienic bases of daily human activity	1
20	**Topic 32** Scientific bases of medical biorhythmology and chronohygiene	1

4.3. Tasks for independent work

№ z.p.	TOPIC	Number of hours
БЛОК 1: ЗАГАЛЬНІ ПИТАННЯ ГІГІЄНИ ТА ЕКОЛОГІЇ		
1.	Preparation for practical classes (theoretical training, development of practical skills)	**8**
2.	Preparation of presentations	**6**
3.	Independent elaboration of topics	**14**
TOGETHER		**28**
BLOCK 2: CURRENT ISSUES OF HYGIENE AND ECOLOGY		
1.	Preparation for practical classes (theoretical training, development of practical skills)	**8**
2.	Preparation of presentations	**6**
3.	Independent elaboration of topics	**14**
TOGETHER		**28**

BLOCK 1

5. Final control

List of final control issues

1. Hygiene as a scientific discipline, its purpose, tasks, objects of study.

2. Sanitation. Definitions, types of sanitation and their characteristics.
3. Solar radiation and its hygienic value, the main components of solar radiation. Spectral composition of the ultraviolet part of solar radiation.
4. The main types of biological (biogenic and abiogenic) action of UVR and its features for each region of the spectral composition of UVR.
5. The concept of erythematous, physiological, prophylactic dose of UFO.
6. Artificial sources of PFM, and their use for preventive purposes.
7. Definition of "Weather", factors that characterize the weather and their hygienic significance.
8. Definition of "Climate", climate-forming factors and their hygienic significance.
9. Heliometeotropic human reactions, definition, specific and nonspecific manifestations of human helioteotropic reactions. Measures to prevent helioteotropic reactions.
10. Describe the main thermobaric formations, their impact on public health.
11. Influence of meteorological conditions on dynamics of atmospheric air pollution.
12. The use of climatic factors for health and prevention purposes.
13. Physical nature and hygienic value of natural light.
14. Types of artificial lighting sources, their comparative characteristics (advantages, disadvantages).
15. Comparative characteristics of incandescent lamps and fluorescent lamps. Hygienic assessment.
16. Hygienic value of water. Physiological functions of water in the human body.
17. Epidemiological significance of water.
18. Classifications of methods of purification, disinfection of water, their comparative hygienic characteristics.
19. The concept of general and special methods of water purification, their hygienic characteristics, indications and contraindications for use.
20. Methods of water disinfection and their hygienic characteristics. Advantages and disadvantages of water disinfection methods.
21. Organoleptic indicators of water quality and their hygienic characteristics.
22. Indicators of water quality by chemical composition, their hygienic value.
23. Indicators that characterize the epidemic safety of water (sanitary-microbiological and sanitary-chemical indicators) and their hygienic value.
24. Features of occurrence and signs of water epidemics (give examples of water epidemics).
25. Fluoridation and defluoridation of drinking water as a hygienic problem. Methods of fluoridation and defluoridation of drinking water, indications and contraindications to their use.
26. Waste disposal systems, their hygienic characteristics.
27. Sanitary cleaning of settlements, ensuring the collection and removal of solid waste. Methods of solid waste disposal.
28. Modern directions of solid and liquid household and industrial waste management.
29. The main sources of air pollution, air of residential and public premises.
30. The main air pollutants of residential (public) premises, the main indicators of the degree of pollution of the premises.
31. Influence of different concentrations of carbon dioxide on the human body, methods for determining the concentration of CO_2 in the air.
32. Hygienic value of ventilation of residential and public buildings, indicators of ventilation efficiency.
33. Definition of "microclimate", its hygienic value.
34. Hygienic value of air humidity, indicators of air humidity, measurement methods.
35. Hygienic value of the temperature of the surrounding objects (radiation temperature, infrared radiation), measurement methods.
36. Hygienic value of indoor air movement, measurement methods.
37. Influence of a heating microclimate on a human body, ways of prevention of its influence.
38. The impact of the cooling microclimate on the human body, ways to prevent its impact.
39. Name the clinical and physiological indicators of the body, which are studied in the study of the complex effects of the microclimate on the human body.
40. Types of work, their physiological and hygienic characteristics.
41. Fatigue, explanations and scientific substantiation of their development. Prevention of fatigue during physical and mental work.
42. Indicators (ergonomic, physiological) of the difficulty of work, their hygienic value.

43. Indicators (ergonomic, physiological) of labor intensity, their hygienic value.
44. Sources and hygienic value of air dust in industrial premises.
45. Properties of dust on which the degree of harmfulness of its influence on an organism depends.
46. Occupational hazards and occupational diseases of employees of chemical and pharmaceutical enterprises.
47. Working conditions in the production of synthetic drugs. Influence of adverse factors on the body of workers.
48. Working conditions in the production of antibiotics. Influence of adverse factors on the body of workers.
49. Adverse factors of the production environment in the manufacture of phytopreparations. Effects on the body of workers.
50. Industrial hazards in the manufacture of ampoules. Effects on the body of workers.
51. The main industrial hazards in the manufacture of tablets. Working conditions in the production of pills.
52. Measures aimed at improving and optimizing the working conditions of employees of control and analytical laboratories, pharmacies and chemical and pharmaceutical enterprises.
53. Nutritional status, assessment methods.
54. Types of food, nutrition.
55. Dietary and therapeutic nutrition.
56. Degrees of food quality.
57. Food poisoning.
58. Physiological significance and basic functions of nutrition. Types of food.
59. Daily consumption of human energy, its main components.
60. Classification of nutrients (nutrients) and their functions in the body.

BLOCK 2
4. Final control

List of final control issues

1. The effect of noise on the human body, noise sickness. Fundamentals and principles of hygienic noise regulation. Measures to reduce the adverse effects of noise on the human body.
2. Biological action of vibration, vibration disease. Fundamentals and principles of hygienic vibration normalization.
3. Types of work, their physiological and hygienic characteristics.
4. Fatigue, explanations and scientific substantiation of their development. Prevention of fatigue during physical and mental work.
5. Indicators of severity and intensity of work, their hygienic value.
6. Sources and hygienic value of dust in the air of industrial premises. Pneumoconiosis, their types, pathogenesis and prevention.
7. Criteria for assessing the health of children and adolescents. Features of the distribution of children and adolescents by health groups.
8. Assessment of physical development by a comprehensive method. The concept of biological and calendar age.
9. Physical development as an important criterion for assessing health. The main indicators of physical development. Methods of assessing the physical development of children and adolescents.
10. Health disorders and diseases caused by environmental factors and the educational process.
11. Hygienic requirements for the land plot of a secondary school. The principle of functional zoning and its significance. Hygienic requirements for the building of a secondary school. Building systems, their characteristics.
12. Hygienic requirements for school classroom planning and placement of desks in the classroom. Hygienic requirements for children's furniture, their physiological justification.
13. Hygienic principles of compiling and evaluating the daily routine of children and adolescents of different ages. Hygienic requirements for school schedules and methods of its evaluation.
14. Physiological and hygienic bases of assessment of a lesson of physical culture. Hygienic requirements for places of physical education classes. Features of the division of children into groups of physical education.
15. The concept, principles and conditions of nutrition.

16. Changes in the human body in violation of the principles of nutrition. Classification of diseases of alimentary origin.
17. Physiological significance and basic functions of nutrition. Types of food.
18. Daily consumption of human energy, its main components.
19. Classification of nutrients (nutrients) and their functions in the body.
20. Methods of calculating human energy consumption by anthropometric and timing data.
21. Methods of calculating human needs for nutrients.
22. The most common hypovitaminosis in individual and collective nutrition, their causes, methods and means of diagnosis and their prevention.
23. Food poisoning of microbial nature. Types, prevention.
24. Food poisoning of non-microbial nature. Types, prevention.
25. Principles of nutrition of people of different ages, professions, athletes.
26. Tasks and content of preventive sanitary supervision, stages of work of sanitary subservice at carrying out preventive sanitary supervision.
27. Tasks and content of current sanitary supervision.
28. Hygienic requirements for planning and improvement of treatment and prevention facilities. Modern hospital building systems, their comparative characteristics.
29. Occupational hazards, hygiene and labor protection of medical personnel of surgical profile.
30. Occupational hazards, hygiene and labor protection of medical staff of therapeutic profile.
31. Nosocomial infection. Definition, main routes of transmission, prevention of STIs.
32. Radiation hygiene as a branch of hygienic science and sanitary practice, its purpose and objectives. Ionizing radiation as an industrial hazard.
33. Classification and characterization of sources of ionizing radiation involved in the formation of human radiation exposure.
34. Features of biological action of ionizing radiation on the human body. The main types of radiation damage to the body and the conditions of their occurrence.
35. Groups of radiation-hygienic regulated quantities, their purpose.
36. The concept of the dose limit of the human body. Irradiation dose limits for different categories of the population and staff.
37. Methods and means of radiation control when working with sources of ionizing radiation.
38. Types of radiation exposure (external and internal radiation) on the body, the conditions on which they depend.
39. Features of radiation hazard and radiation protection when working with sources of ionizing radiation.
40. Characteristics of radiation hazard in the X-ray diagnostic room and the conditions on which it depends. Requirements for X-ray room planning.
41. Ways to reduce the radiation exposure of staff and patients of medical institutions.
42. Define the concept of "Healthy lifestyle", name the subjective and objective methods and means of a healthy lifestyle.
43. Features of sanitary supervision in the Armed Forces. Tasks, forces and means of medical service for hygienic support, civilian formations.
44. Features of occupational health of disaster liquidators.
45. Hygienic requirements for temporary compact accommodation of military, civilian formations, rescue teams and the affected population in emergencies, depending on climatic, weather and seasonal conditions.
46. The organization of food of military and civilian formations in field conditions at emergencies and during war, its forms (collective, group, individual).
47. Responsibilities of the medical service, methods and means of hygienic control over the completeness and safety of food of personnel of formations and the affected population in the field in emergencies, in combat.
48. Determination of military hygiene. Subject, task.
49. Features of drinking water requirements in the field during emergencies and during war. Hygienic characteristics of different sources of water supply in terms of their use in emergencies and during war.
50. Methods of disinfection and purification of water and features of their use in the field in emergencies and during war.
51. Characteristics of methods of decontamination of water from radioactive products of nuclear explosions.

Typical tasks to solve

1. Evaluate the thermal state of the body by catathermometry according to the following measurement results: cooling time of the catathermometer from 38□C to 35□C in one room 3 minutes and 15 seconds, in the second room - 1 minute 25 seconds. Catathermometer factor F = 630.
2. Determine the equivalent-effective temperature in the room in which the air temperature on the dry thermometer of the aspiration psychrometer Assman is 25□C, on the humid 19□C, the air velocity is 2 m / s. Make a conclusion about the thermal state of the body.
3. Determine the resulting temperature in the room, the air temperature of which on a dry thermometer Assman psychrometer is 25□C, air velocity 2.5 m / s, absolute humidity 10.5 mm Hg, average radiation temperature 18□C. A man does hard work. Make a conclusion about the thermal state of the body.
4. Calculate and estimate the heat balance of a “standard person” who is in light clothing at a body surface temperature of 35□C, performs work of medium weight (energy consumption 180 kcal / h) in a room with an air temperature of 12□C, average temperature of the surrounding surfaces 10□C, air velocity 0.8 m / s, relative humidity 85%.
5. Given that through the skin, respiration are released mainly organic metabolic products, to assess the degree of indoor air pollution, it was proposed to determine another indicator of this pollution - air oxidation, ie to measure the amount of atomic oxygen required for oxidation of organic compounds in 1 m3 of air using a titrated solution of potassium dichromate K2Sr2O7.
Air is considered clean if this figure does not exceed 4-6 mg / m3 of oxygen spent on the oxidation of organic pollutants per unit volume of air. In rooms with a very unfavorable sanitary condition, the oxidation of air can reach 20 and more mg / m3.

4.4. Ensuring the educational process

1. Lecture presentations.
2. Methodical recommendations for practical classes.
3. Sets of tasks for complex tests.
4. Psychrometric devices, anemometric and aspiration devices, chemical complex "Quarry-1", biodosometric, luxometric.
5. Test tasks and situational tasks for current control.
6. Test tasks and situational tasks for semantic modular controls.
7. Test tasks for final-module control.

4. Final control

List of final control (exam) questions

1. Hygiene as a scientific discipline, its purpose, tasks, objects of study.
2. Sanitation. Definitions, types of sanitation and their characteristics.
3. Solar radiation and its hygienic value, the main components of solar radiation. Spectral composition of the ultraviolet part of solar radiation.
4. The main types of biological (biogenic and abiogenic) action of UVR and its features for each region of the spectral composition of UVR.
5. The concept of erythematous, physiological, prophylactic dose of UFO.
6. Artificial sources of PFM, and their use for preventive purposes.
7. Definition of "Weather", factors that characterize the weather and their hygienic significance.
8. Definition of "Climate", climate-forming factors and their hygienic significance.
9. Heliometeotropic human reactions, definition, specific and nonspecific manifestations of human helioteotropic reactions. Measures to prevent helioteotropic reactions.
10. Describe the main thermobaric formations, their impact on public health.
11. Influence of meteorological conditions on dynamics of atmospheric air pollution.
12. The use of climatic factors for health and prevention purposes.
13. Physical nature and hygienic value of natural light.
14. Types of artificial lighting sources, their comparative characteristics (advantages, disadvantages).
15. Comparative characteristics of incandescent lamps and fluorescent lamps. Hygienic assessment.
16. Hygienic value of water. Physiological functions of water in the human body.
17. Epidemiological significance of water.
18. Classifications of methods of purification, disinfection of water, their comparative hygienic characteristics.
19. The concept of general and special methods of water purification, their hygienic characteristics, indications and contraindications for use.

20. Methods of water disinfection and their hygienic characteristics. Advantages and disadvantages of water disinfection methods.
21. Organoleptic indicators of water quality and their hygienic characteristics.
22. Indicators of water quality by chemical composition, their hygienic value.
23. Indicators that characterize the epidemic safety of water (sanitary-microbiological and sanitary-chemical indicators) and their hygienic value.
24. Features of occurrence and signs of water epidemics (give examples of water epidemics).
25. Fluoridation and defluoridation of drinking water as a hygienic problem. Methods of fluoridation and defluoridation of drinking water, indications and contraindications to their use.
26. Waste disposal systems, their hygienic characteristics.
27. Sanitary cleaning of settlements, ensuring the collection and removal of solid waste. Methods of solid waste disposal.
28. Modern directions of solid and liquid household and industrial waste management.
29. The main sources of air pollution, air of residential and public premises.
30. The main air pollutants of residential (public) premises, the main indicators of the degree of pollution of the premises.
31. Influence of different concentrations of carbon dioxide on the human body, methods for determining the concentration of CO_2 in the air.
32. Hygienic value of ventilation of residential and public buildings, indicators of ventilation efficiency.
33. Definition of "microclimate", its hygienic value.
34. Hygienic value of air humidity, indicators of air humidity, measurement methods.
35. Hygienic value of the temperature of the surrounding objects (radiation temperature, infrared radiation), measurement methods.
36. Hygienic value of indoor air movement, measurement methods.
37. Influence of a heating microclimate on a human body, ways of prevention of its influence.
38. The impact of the cooling microclimate on the human body, ways to prevent its impact.
39. Name the clinical and physiological indicators of the body, which are studied in the study of the complex effects of the microclimate on the human body.
40. Types of work, their physiological and hygienic characteristics.
41. Fatigue, explanations and scientific substantiation of their development. Prevention of fatigue during physical and mental work.
42. Indicators (ergonomic, physiological) of the difficulty of work, their hygienic value.
43. Indicators (ergonomic, physiological) of labor intensity, their hygienic value.
44. Sources and hygienic value of air dust in industrial premises.
45. Properties of dust on which the degree of harmfulness of its influence on an organism depends.
46. Occupational hazards and occupational diseases of employees of chemical and pharmaceutical enterprises.
47. Working conditions in the production of synthetic drugs. Influence of adverse factors on the body of workers.
48. Working conditions in the production of antibiotics. Influence of adverse factors on the body of workers.
49. Adverse factors of the production environment in the manufacture of phytopreparations. Effects on the body of workers.
50. Industrial hazards in the manufacture of ampoules. Effects on the body of workers.
51. The main industrial hazards in the manufacture of tablets. Working conditions in the production of pills.
52. Measures aimed at improving and optimizing the working conditions of employees of control and analytical laboratories, pharmacies and chemical and pharmaceutical enterprises.
53. Nutritional status, assessment methods.
54. Types of food, nutrition.
55. Dietary and therapeutic nutrition.
56. Degrees of food quality.
57. Food poisoning.
58. Physiological significance and basic functions of nutrition. Types of food.
59. Daily consumption of human energy, its main components.
60. Classification of nutrients (nutrients) and their functions in the body.

61. The effect of noise on the human body, noise sickness. Fundamentals and principles of hygienic noise regulation. Measures to reduce the adverse effects of noise on the human body.
62. Biological action of vibration, vibration disease. Fundamentals and principles of hygienic vibration normalization.
63. Types of work, their physiological and hygienic characteristics.
64. Fatigue, explanations and scientific substantiation of their development. Prevention of fatigue during physical and mental work.
65. Indicators of severity and intensity of work, their hygienic value.
66. Sources and hygienic value of air dust in industrial premises. Pneumoconiosis, their types, pathogenesis and prevention.
67. Criteria for assessing the health of children and adolescents. Features of the distribution of children and adolescents by health groups.
68. Assessment of physical development by a comprehensive method. The concept of biological and calendar age.
69. Physical development as an important criterion for assessing health. The main indicators of physical development. Methods of assessing the physical development of children and adolescents.
70. Health disorders and diseases caused by environmental factors and the educational process.
71. Hygienic requirements for the land plot of a secondary school. The principle of functional zoning and its significance. Hygienic requirements for the building of a secondary school. Building systems, their characteristics.
72. Hygienic requirements for school classroom planning and classroom placement. Hygienic requirements for children's furniture, their physiological justification.
73. Hygienic principles of compiling and evaluating the daily routine of children and adolescents of different age groups. Hygienic requirements for school schedules and methods of its evaluation.
74. Physiological and hygienic bases of assessment of a lesson of physical culture. Hygienic requirements for places of physical education classes. Features of the division of children into groups of physical education.
75. The concept, principles and conditions of nutrition.
76. Changes in the human body in violation of the principles of nutrition. Classification of diseases of alimentary origin.
77. Physiological significance and basic functions of nutrition. Types of food.
78. Daily consumption of human energy, its main components.
79. Classification of nutrients (nutrients) and their functions in the body.
80. Methods of calculating human energy consumption by anthropometric and timing data.
81. Methods of calculating human needs for nutrients.
82. The most common hypovitaminosis in individual and collective nutrition, their causes, methods and means of diagnosis and their prevention.
83. Food poisoning of microbial nature. Types, prevention.
84. Food poisoning of non-microbial nature. Types, prevention.
85. Principles of nutrition of people of different ages, professions, athletes.
86. Tasks and content of preventive sanitary supervision, stages of work of sanitary subservice at carrying out preventive sanitary supervision.
87. Tasks and content of current sanitary supervision.
88. Hygienic requirements for the planning and improvement of treatment and prevention facilities. Modern hospital building systems, their comparative characteristics.
89. Occupational hazards, hygiene and labor protection of medical personnel of surgical profile.
90. Occupational hazards, hygiene and labor protection of medical staff of therapeutic profile.
91. Nosocomial infection. Definition, main routes of transmission, prevention of STIs.
92. Radiation hygiene as a branch of hygienic science and sanitary practice, its purpose and objectives. Ionizing radiation as an industrial hazard.
93. Classification and characterization of sources of ionizing radiation involved in the formation of human radiation exposure.
94. Features of biological action of ionizing radiation on a human body. The main types of radiation damage to the body and the conditions of their occurrence.
95. Groups of radiation-hygienic regulated quantities, their purpose.

96. The concept of the dose limit of the human body. Irradiation dose limits for different categories of the population and staff.
97. Methods and means of radiation control when working with sources of ionizing radiation.
98. Types of radiation exposure (external and internal radiation) on the body, the conditions on which they depend.
99. Features of radiation danger and radiation protection when working with sources of ionizing radiation.
100. Characteristics of radiation hazard in the X-ray diagnostic room and the conditions on which it depends. Requirements for X-ray room planning.
101. Ways to reduce the radiation exposure of staff and patients of medical institutions.
102. Define the concept of "Healthy lifestyle", name the subjective and objective methods and means of a healthy lifestyle.
103. Features of sanitary supervision in the Armed Forces. Tasks, forces and means of medical service for hygienic support, civilian formations.
104. Features of occupational hygiene of disaster liquidators.
105. Hygienic requirements for temporary compact accommodation of military, civilian formations, rescue teams and the affected population in emergencies, depending on climatic, weather and seasonal conditions.
106. The organization of food of military and civilian formations in field conditions at emergencies and during war, its forms (collective, group, individual).
107. Responsibilities of the medical service, methods and means of hygienic control over the completeness and safety of food of personnel of formations and the affected population in the field in emergencies, in combat.
108. Definition of military hygiene. Subject, task.
109. Features of drinking water requirements in the field during emergencies and during war. Hygienic characteristics of different sources of water supply in terms of their use in emergencies and during war.
110. Methods of disinfection and purification of water and features of their use in the field in emergencies and during war.
111. Characteristics of methods of decontamination of water from radioactive products of nuclear explosions.

"0" version of the credit card indicating the maximum number of points for each completed task

Option №0

1. Hygienic value of water. Physiological functions of water in the human body.
2. Influence of different concentrations of carbon dioxide on the human body, methods for determining the concentration of CO2 in the air.

Assessment of the theoretical question: 20-30

- The applicant has mastered the theoretical material very well, deeply and comprehensively knows the basic provisions of the recommended literature, thinks logically and builds the answer, expresses his attitude to certain problems.

The question is solved by 86-90%: **30** points

- Applicants for higher education have mastered the theoretical material, has the basic aspects of the recommended literature, argues them; expresses his views on certain problems, but assumes certain inaccuracies in the logic of the presentation of theoretical material.

The question is solved by 80-85%: **23** points

- Applicant for higher education has mastered the theoretical material, has most knowledge of the recommended literature; expresses his views on certain issues, but assumes inaccuracies in definitions and formulations, the question is solved by 74-80%: **22** points
- Applicants for higher education are guided in the recommended literature, but unconvincingly answers, makes inaccuracies and errors in the presentation of the material, the question is solved by 68-73%: **21** points
- The applicant of higher education is poorly oriented in the recommended literature, unconvincingly answers, confuses concepts. Admits inaccuracies and gross errors in the presentation of the material, the question is solved by 60-67%: **20** points
- The issue is not resolved. The applicant of higher education has not mastered the educational material of the discipline, does not know the scientific facts, definitions, is not oriented in the primary sources and recommended literature; no scientific thinking - **0** points.

3. Only 5 tests.

Test 1: *Temperature in the pharmacy + 16oC, relative humidity 85%. How will this microclimate affect the body's heat transfer?*
A. Weaken evaporation
B. Strengthen the conduction
C. Increase evaporation
D. Increase convection
E. Increase radiation
Test 2: *On the territory of the pharmacy on some days there is an unpleasant smell of gasoline and oil from the car depot, which is located at a certain distance from the pharmacy. Which of the factors most significantly affects this phenomenon?*
A. The wind rose
B. Air temperature
C. Humidity
D. The Earth's magnetic field
E. Air pressure
Test 3: *Preservation of herbal medicinal raw materials depends on humidity. Specify the optimal value of humidity in the room for storage of this raw material:*
A. 10-20%
B. 70-80%
Pp. 30-40%
E. 50-60%
E. 90-100%
Test 4. As a result of the spring flood, there was a suspicion of fecal contamination of the well, the water of which is used for the preparation of medicines. Which indicator is the most informative for confirming or refuting this version?
A. Koli-index
B. Turbidity
C. Chromaticity
D. BOD
E. Dissolved oxygen
Test.5 In case of non-compliance with hygienic norms and requirements for production conditions, employees of pharmaceutical companies may develop various occupational diseases. Specify the most typical cases of occupational pathology among workers employed in the production of antibiotics:
A. Allergies
B. Hypertension
S. Anemia
D. Parkinsonism
E. Collagenosis
Evaluation of test tasks 12-20 points. The maximum number of points for each test question is 4 points. The minimum number of points is 2 points.
4. *Situational task*. Determine the resulting temperature in the room, the air temperature of which according to the dry thermometer of the Assman psychrometer is 25□C, air velocity 2.5 m / s, absolute humidity 10.5 mm Hg, average radiation temperature 18□C. A man does hard work. Make a conclusion about the thermal state of the body.

Assessment of the situational problem 18-30

30 points - calculations are performed correctly, the results are obtained in comparison with hygienic standards, the correct conclusion is made, the corresponding recommendations are given.
21 points - calculations are performed correctly, there is no comparison of the obtained results with hygienic standards, the conclusion is made, the corresponding recommendations are given.
20 points - minor inaccuracies in the calculations, the conclusion was made, the relevant recommendations were provided.
19 points - inaccuracies in the calculation formulas or incorrect
formulated a conclusion or recommendation.
18 points - mistakes in calculations, conclusions, recommendations.
0 points - calculations, conclusions, recommendations are made incorrectly, the problem is not solved.

Petro Mohyla Black Sea National University
Educational qualification level - master
Area of knowledge: 22 Health
specialty 222 Medicine

Course - **Hygiene and Ecology**

Option № 0

1. Hygienic value of water. Physiological functions of water in the human body - **the maximum number of points - 20.**
2. The effect of different concentrations of carbon dioxide on the human body, methods for determining the concentration of CO2 in the air - **the maximum number of points - 20.**
3. Occupational hazards, hygiene and labor protection of medical staff of therapeutic profile - **the maximum number of points - 20.**
4. Fatigue, explanations and scientific substantiation of their development. Prevention of fatigue during physical and mental work - **the maximum number of points - 20.**

Approved at the meeting of the Department of "Hygiene, Social Medicine and Public Health", the minutes № ___ from "__" _____ 2021.

The head of the department is **professor Zyuzin V.O.**

Examiner **Ph.D. Muntian L.Ya.**

A total of 45 tasks, followed by analysis of common errors.

6. Evaluation criteria and diagnostic tools for learning outcomes

Control methods

• Survey (testing of theoretical knowledge and practice of situational tasks).
• Test control.
• Execution of presentations on topics (its defense).

Current control. Testing in practical classes of theoretical knowledge and the acquisition of practical skills, as well as the results of independent work of students. Supervised by teachers according to the specific purpose of the curriculum. Assessment of the level of student training is carried out by: interviewing students, solving and analyzing situational tasks and test tasks, interpreting the results of experimental and clinical and laboratory research, monitoring the acquisition of practical skills.

Intermediate control. Checking the possibility of using students for clinical and diagnostic analysis of theoretical knowledge and practical skills on all topics studied, as well as the results of independent work of students. Carried out in the last lesson by section by passing practical skills, solving situational problems and testing.

The final test is carried out upon completion of the study of all topics of the block at the last test of the semester.

The final control (credit) and final control (exam) are allowed to students who have attended all the lectures, classroom classes, performed full independent work and in the learning process scored the number of points, not less than the minimum - **70 points in autumn semester and 40 points in the spring semester.**

Distribution of points received by students

In the autumn semester, a positive assessment in each practical session can be from 4 to 7 points. A score below 4 points means "unsatisfactory", the lesson is not credited and is subject to practice in the prescribed manner. At the final test (RCC) for block 1, the student can get a maximum of 80 points. PKR is considered credited if the student scored at least 50 points.

№ s / n	Current testing and independent work	For one completed work (number балів)	Total points

1.	Solving situational problems (45 tasks)	**1,33**	**60**
2.	Execution of test tasks (300)	**0,1**	**30**
3.	Demonstration of presentation works	**20**	**20**
4.	Discussion on the topic of the presentation	**2**	**10**
5.	Credit: 2 theoretical questions, 5 test tasks, situational problem		**80**
			Total:200

In the spring semester, a positive assessment in a practical session can be from 2.5 to 5 points. A score below 2.5 points means "unsatisfactory", the lesson is not credited and is subject to practice in the prescribed manner. At the final test (RCC) for block 2, the student can get a maximum of 40 points. PKR is considered credited if the student scored at least 30 points.

Criteria for assessing knowledge

A score of 7 points in the autumn semester (5 points in the spring semester), 71-80 points on the RCC in the autumn semester (38-40 points in the spring semester) and 71-80 points on the exam (A on the ECTS scale and 5 on the national scale) the student's answer is evaluated if it demonstrates a deep knowledge of all theoretical positions and the ability to apply theoretical material for practical analysis and has no inaccuracies.

A score of 5-6 points in the autumn semester (4 points in the spring semester), 61-70 points on the RCC in the autumn semester (35-37 points on the RCC in the spring semester) and 61-70 points on the exam on the ECTS scale and 4 on a national scale) the answer is evaluated if it shows knowledge of all theoretical provisions, the ability to apply them in practice, but some fundamental inaccuracies are allowed.

Score 4 points in the autumn semester (3 points in the spring semester), 50-60 points on the RCC in the fall semester (30-34 points on the RCC in the spring semester) and 50-60 points on the exam (D and E on the ECTS scale and 3 on a national scale) the student's response is evaluated provided that he knows the main theoretical principles and can use them in practice.

7. Recommended sources of information

7.1. Basic

1. The Constitution of Ukraine.
2. Fundamentals of the legislation of Ukraine on health care.
3. Law of Ukraine “On Ensuring Sanitary and Epidemic Welfare of the Population”.
4. Bardov VG Hygiene and ecology / V.G. Bardov, VF Москаленко, C.T. Omelchuk, OP Yavorovsky [etc.] // Vinnytsia: Nova Kniga, 2006. - 720 p.
5. General hygiene: propaedeutics of hygiene: Textbook / E.G. Goncharuk, Yu.I. Kundiev, VG Bardov and others; For order. E.G. Potter. - K .: Вища шк., 1995. - 552 c.
6. Preventive medicine. General hygiene with the basics of ecology. I.I. Datsenko, RD Gabovich. Textbook, 2 editions. - Kyiv: "Health", 2004. - 792 p.
7. Fundamentals of ecology. Textbook for students. higher education institutions / Bardov VG, Fedorenko VI, Iletskaya EM [etc.] .: ed. V.G. Bardova, VI Fedorenko. Vinnytsia: New Book. - 2013. - 407 p.
8. I.I. Datsenko, RD Gabovich. Fundamentals of general and tropical hygiene. - 48 K .: Здоровья, 1995. - 424 c.
9. Public hygiene. For order. Goncharuka EG Textbook. Kyiv, "Health", 2003. - 728 p.
10. Collection of test tasks for state tests in hygiene, social medicine, organization and economics of health care. Edited by: V.F. Москаленко, В.Г. Бардова, О.П. Yavorovsky. - Vinnytsia: Nova Kniga, 2012. - 200 p.
11. Hygiene and ecology in terms, schemes, tables and tests: textbook. method VF Москаленко, О.П. Yavorovsky, DO Lastkov, SI Garkavy and others. K .: VSV "Medicine", 2012. - 208 p.
12. Nickberg II Radiation hygiene. - K .: Здоров'я, 1999. - 160 c.
13. Food hygiene with the basics of nutrition: Textbook; in 2 books. - Book. 2 / For order. prof. VI Cyprian. K .: Медицина, 2007. - 544 c.
14. Occupational Hygiene: Textbook / Yu.I. Kundiev, OP Yavorovsky, A.M. Shevchenko and others; for order. acad. NAS of Ukraine, NAMS of Ukraine, prof. Yu.I. Kundieva, Corresponding Member NAMS of Ukraine prof. O.P. Yavorovsky.- K .: VSV "Medicine", 2011.– 904p.

15. Hygiene and labor protection of medical workers. Textbook / Ed. В.Ф.Москаленка, О.П. Yavorovsky. - K .: «Медицина», 2009. - 176 с.
16. General Hygiene: A Handbook for Practical Classes / General Ed. Datsenko II - Lviv, 2001. - 472 p.
17. Prevention of nosocomial infections (hygienic, epidemiological and microbiological aspects) / edited by VF Moskalenko - K .: "Health", 2013. - 160 p.
18. Hygiene and ecology: a textbook for preparation for the license exam Step - 2 "General medical training" / Plastunov BA, Krupka NO, Lototska-Dudyk UB [etc.] - Lviv, 2012. - 364 p.
19. Bardov VG, Moskalenko VF, Omelchuk ST, Yavorovsky AP et al. Hygiene and ecology - Vinnytsia: Novaya Kniga, 2008. - 720 p.

7.2. Auxiliary

1. Preventive medicine. General hygiene with the basics of ecology Textbook II Datsenko, RD Gabovich. - K., 1999. - 694 p.
2. Occupational hygiene (research methods and sanitary-epidemiological surveillance) / Ed. A.M. Shevchenko, OP Yavorovsky. - Vinnytsia: NEW BOOK, 2005.- 528p.
3. Introduction to preventive medicine. Methodological and historical aspects / V.V. Babienko, A.M. Grinzovsky, Yu.M. Vorokhta. Tutorial. K .: Slovo Publishing House, 2012. - 232 p.
4. Radiation hygiene. M.P. Mashchenko, DS Мечов, В.О. Ant. Kharkiv; Ministry of Health of Ukraine, KMAPE, 1999. - 389 p.
5. General hygiene. Dictionary-reference // I.I. Datsenko, VG Бардов, Г.П. 49
Stepanenko. - Lviv, 2001. - 244 p.
6. Food hygiene with the basics of nutrition (edited by VI Tsipriyan). K., 1999. - 568 p.
7. Hygiene of children and adolescents: Textbook / Edited by Corresponding Member. NAPS of Ukraine, Dr. med. Sciences, Prof. VI The stock market. - Kyiv: Askania Publishing House, 2014. - 304 p.
8. Occupational hygiene (edited by AM Shevchenko, OP Yavorovsky). - Vinnytsia: Nova Kniga, 2005. - 520 p.
9. Pashko KO Military hygiene with hygiene in emergencies. - Ternopil; Ukrmedkniga, 2005. - 312 p.
10. Radiation safety standards of Ukraine (NRBU-97). - K., 1997. - 121 p.
11. Basic sanitary rules of radiation protection of Ukraine (OSPU-2005). - 136 p. 15.

7.3. Information resources on the Internet

1. Official Internet - Representation of the President of Ukraine http: //www.president.gov.ua.
2. The Verkhovna Rada of Ukraine http://www.rada.gov.ua/.
3. The Cabinet of Ministers http://www.kmu.gov.ua/.
4. Ministry of Education and Science of Ukraine http://www.mon.gov.ua/.
5. Ministry of Ecology and Natural Resources of Ukraine http://www.menr.gov.ua/.
6. State Service of Ukraine for Emergencies http://www.dsns.gov.ua/.
7. National Security and Defense Council of Ukraine http://www.rnbo.gov.ua/.
8. Permanent Mission of Ukraine to the United Nations http://ukraineun.org/.
9. North Atlantic Treaty Organization (NATO) http://www.nato.int/.
10. World Health Organization http://www.who.int/en/.
11. Information resources Official web resources of the President of Ukraine, the Verkhovna Rada of Ukraine, the Ministry of Education and Science, the Ministry of Health and other central authorities of Ukraine, educational portals of higher medical educational institutions of Ukraine

PURPOSE OF STUDYING THE DISCIPLINE "HYGIENE AND ECOLOGY" (ultimate goals) XII semestr

The purpose of studying the discipline "Hygiene and Ecology" (ultimate goals) is determined on the basis of OPP training of a doctor in the specialty "pediatrics" (approved by the order of the Ministry of Education and Science of Ukraine № 239 of April 16, 2003).

The ultimate goals of the normative discipline «Hygiene and Ecology»

PP.003	Demonstrate mastery of methods for hygienic assessment of the impact of environmental factors on public health
PP.004	Інтерпретувати основні закони (постулати) гігієни та загальні закономірності зв'язку здоров'я з факторами і умовами середовища життєдіяльності
PP.005	Interpret the basic laws (postulates) of hygiene and general patterns of connection of health with the factors and conditions of the living environment
PP.010	Interpret the basic laws (postulates) of hygiene and general patterns of connection of health with the factors and conditions of the living environment
PP.011	Plan activities to maintain a healthy lifestyle, personal hygiene and implement them in health care practice
PP.012	Plan organizational and substantive measures for preventive and ongoing sanitary supervision
PP.023	Carry out state preventive and current sanitary supervision over the living conditions of children and adolescents
PP.058	Analyze the state of the environment on the basis of integrated criteria for assessing the state of public health
PP.094	Carry out a comprehensive assessment of the health of the population on the basis of integrated indicators

PP.149	To determine the physical and neuropsychological development of children of different ages and use the principles of rational feeding and nutrition of healthy children of different ages
PP.225	Assess the general condition of the child, his physical, mental and sexual development and school maturity

PROGRAM OF THE COURSE "HYGIENE AND ECOLOGY"

Blok 1: Hygiene and ecology

Content module 1. General and communal hygiene

Specific goals:

To interpret the concept of hygiene as a theoretical basis of preventive medicine.

Explain the laws of hygiene and be able to use them in practice. Interpret the principles of hygienic rationing, methods and means of hygienic research, their use in preventive and current sanitary supervision in various sectors of the economy, treatment and prevention and health facilities.

To analyze the hygienic, physiological and epidemiological significance of water, its role in the occurrence of endemic and spread of infectious diseases and helminthiasis with the water mechanism of transmission of pathogens. Interpret organoleptic, toxicological, microbiological, virological and parasitological indicators of drinking water quality, as well as indicators of radiation safety, physiological completeness of mineral composition of drinking water obtained from various sources. Interpret the hygienic value of soil, atmospheric air.

To plan and carry out preventive measures on sanitary protection of soil for the purpose of prevention of infectious and non-infectious diseases and poisonings of the population by exogenous chemicals. Explain the features of collection, temporary storage, removal and disposal of liquid wastewater and solid waste from treatment and prevention (surgical, infectious diseases departments) and health facilities. Analyze radiation protection of personnel and radiation safety of patients in radiological and radiological departments of medical institutions.

Plan measures for the organization of medical care in emergencies.

Topic 1. Methodological, methodological bases of studying and assessing the potential risk of environmental factors on public health. Preventive toxicology. Principles and methods of hygienic regulation of harmful chemicals in various environmental objects.

The importance of hygiene for the formation of professional thinking and practice of pediatricians. Theoretical foundations of hygiene, the contribution of domestic scientists to their scientific justification. General philosophical and subject methodology of hygiene. The role of environmental factors as etiological (causal) factors and risk factors for various diseases. Deterministic and stochastic (probabilistic) effects in the human body under the influence of environmental factors. Hygienic diagnostics. Ecologically dependent diseases, methods of their forecasting and prevention. Methods of qualitative (conceptual) and quantitative integrated assessment of the environment and health. Population health as an integral criterion for assessing the state of the environment. Forecasting changes in the level of health of the population by the state of air, water and soil pollution. Methods of establishing the relationship between the

environment and health. General scheme of epidemiological research to identify and assess the relationship between environmental factors and health. Risk assessment methodology. Characteristics of the problem and basic terms. The main stages of the risk assessment methodology: identification of harmful factors, exposure assessment, establishment of the dose-response relationship for carcinogens and non-carcinogens, risk characterization, risk management. Direct and indirect methods of exposure assessment, biomarkers of exposure, effect, susceptibility. Problems of application of risk assessment methodology in Ukraine.

Subject and tasks of preventive toxicology. The concept of toxicokinetics, toxicodynamics, toxicometry. Toxicity and accumulation of xenobiotics. Modern ideas about cumulation, methods of its estimation. Classification of harmful substances according to the degree of toxicity and danger. The concept of maximum permissible concentrations (MPC) of exogenous chemicals. Independent and comprehensive rationing. Stages of hygienic evaluation of chemical compounds. Scheme of toxicological experiment. The main parameters of toxicometry, methods of their determination. Long-term effects, allergenic effects. The concept of combined, complex, combined action. Legislative and regulatory documents in the field of hygienic regulation. Determination of MPC and features of methodical schemes of independent hygienic standardization of xenobiotics in various objects of environment (air of a working zone, atmospheric air, water of reservoirs, soil, food rations and separate products). The concept of limiting signs of harmful substances in different environments. Complex rationing of pesticides. Methods for determining the actual intake of xenobiotics in the human body and their actual dose.

Topic 2. Measures to prevent diseases that spread through water, soil and associated with air pollution.

Hygienic value of water and conditions of water supply of the population. The role of water in the spread of infectious diseases of bacterial, viral, protozoal and helminthic etiology. Causes and signs of epidemics of aquatic origin. Prevention measures.

The role of water in the occurrence of non-infectious (endemic) diseases among the population. Hygienic significance of micronutrient water deficiency in the development of endemic caries, fluorosis, goiter, chronic non-communicable diseases. Hygienic value of toxicological indicators of drinking water quality. Water-nitrate methemoglobinemia. Diseases of Minimata, itai-itai, Yusho. Measures to prevent non-communicable diseases among the population.

The main sources of soil pollution, their hygienic characteristics. Impact of contaminated soil on public health and sanitation. The role of soil in the spread of infectious diseases and invasions. Endogenous and anthropogenic biogeochemical provinces and diseases of non-infectious etiology.

The main air pollutants in the settlements. Atmospheric air quality assessment and methods for determining the risk and impact of air pollutants on health. System of measures for prevention of air pollution. Impact of air pollution on the health and sanitation of the population. Acute and chronic poisonings, chronic specific and nonspecific diseases. Side effects on the physical properties of atmospheric air, greenery. Methods for determining the expected effects on health depending on the level and degree of risk of air pollution.

Topic 3. Methods of hygienic assessment of the conditions of patients in

treatment and prevention facilities and radiation protection when working with closed and open sources of ionizing radiation. Methods of monitoring the health of children living in contaminated areas. Hygienic provision of paramilitary formations, rescue teams and the injured population in emergencies

Basic hygienic requirements for planning, equipment, mode of operation of medical, diagnostic, auxiliary and household units of the hospital. Hygienic standards of microclimate, air environment, ventilation, natural and artificial lighting of various departments of the hospital, their importance for the effectiveness of treatment of patients and working conditions of medical staff. Hygienic requirements for water supply, drainage and sanitation of treatment and prevention and health facilities in canalized and non-canalized settlements. Harmful and dangerous factors of various departments of the hospital (diagnostic, physiotherapeutic, balneological, etc.), their impact on the health of patients.

Modern scientific concepts of irradiation levels. Features of radiation protection of medical staff and patients when working with closed and open sources of ionizing radiation in modern medical institutions for children and adolescents. Features of health formation of children of different age groups living in areas with high radiation background.

Hygienic requirements for sanitation of temporary accommodation of the affected population (water supply, collection, removal and disposal of solid and liquid waste). Features of the microclimate and chemical composition of the air environment in field dwellings and fortifications. Organization of supervision of water supply and food in emergency situations. Hygienic characteristics and requirements for food quality. Criteria (standards) for expert evaluation of food products. Organizational and staff formations and laboratory facilities of the medical service of formations for food examination in the field.

Topic 1 (independent work). Preparation of a lecture on the promotion of a healthy lifestyle.

Medical and hygienic aspects of the organization of life, food, training of children's contingents. Organization of medical control over the formation of the health of children's contingents. Prevention of bad habits in children and adolescents.

<u>Blok 2. Hygiene of children and adolescents. Occupational hygiene</u>

Specific goals:

Master and use the method of comprehensive assessment of the health and physical development of the child. Identify environmental factors that affect the health of children of different ages.

Organize monitoring of children's health with the development of measures for biocorrection of its formation.

Give a hygienic assessment of school maturity.

Assess the organization of the educational process in the preschool and school.

Organize medical and pedagogical control over the physical education of children and adolescents in children's institutions of various types .

Be able to use the regulatory framework for sanitary examination of projects of children's educational institutions, children's items and other documents of sanitary legislation in the field of hygiene of children and adolescents.

Assess physiological changes in the body of children of different ages that occur in the process of mental and physical labor. Predict the negative impact of working

conditions and organizational aspects on the body of a child or adolescent.

Develop preventive measures to eliminate the negative factors of the labor process.

Provide advisory career guidance on the basis of the regulatory framework governing the work of adolescents, taking into account the anatomical and physiological characteristics and health status of the individual.

Topic 4. Methods of monitoring the health of children and adolescents. Comprehensive assessment of individual, population health and physical development of children. Methods of hygienic control over the organization of the educational process in preschool educational institutions and secondary schools. School maturity, methods of its study.

Hygiene of children and adolescents as a branch of hygiene and sanitary practice. The main problems of the discipline at the present stage of development of medical science. Features of children's health formation in modern ecological and economic conditions. Biological laws and social patterns of growth and development of the child.

Periodization of childhood. Regional standards of physical development, requirements for their creation. The concept of health in childhood, criteria and indicators of health. Physical development as the main indicator of health. The purpose and objectives of the study of physical development.

Methods of hygienic assessment of health and physical development of individuals and groups of children. Comprehensive assessment of the child's physical development, development of measures for biocorrection of health.

Hygienic requirements for the organization of the daily routine and educational process in children's institutions of various types. Types of day modes. Schedule and schedule of classes in educational institutions. Hygienic requirements for the use of technical teaching aids. Preventive recommendations for improving the organization of the educational process in school.

Justification of the age of starting school. Methods of assessing school maturity. The role of a pediatrician in the work of the medical and pedagogical commission.

Topic 5. Methods of hygienic control over the organization of physical education in preschool and secondary schools. Methods of hygienic assessment of the school environment, children's items. Hygienic bases of labor activity of teenagers, methods of professional selection and career guidance. Functional responsibilities of a doctor in a teenage office for career guidance work.

Physical education as a major factor in health biocorrection. Forms and means of physical education in children's institutions of various types. Tempering: general and special measures, features of their carrying out in establishments of various type. Organization of medical and pedagogical control over physical education. Functional responsibilities of a doctor of a preschool educational institution and a school doctor during medical and pedagogical control. The importance of forming a school environment, workplace, living space for children of different ages in strengthening and maintaining their health. Hygienic requirements for school classroom equipment , housing, computer rooms. Hygienic requirements for the design and parameters of educational furniture as factors in ensuring the optimal posture of the student at the desk. Preventive recommendations for sanitary and hygienic conditions of students' stay in the educational institution. Hygienic requirements for children's items (books, textbooks, toys, shoes, clothes, etc.). Fundamentals of sanitary and labor legislation in

the field of occupational health, the main provisions of legislative documents governing the work of adolescents. Methods of hygienic assessment of factors of the production environment and forecasting the body's response to their impact. Vocational guidance, professional selection and professional counseling of adolescents. The role of a pediatrician in choosing the professional direction of the child at different age stages of development. The physiological cost of mastering professional skills as a forecast of the success of professional choice.

Topic 2 (independent work). Assessment of the health of the children's team.

Methods of hygienic assessment of health and physical development of children. Development of measures for biocorrection of children's health in educational institutions. The role of a pediatrician in the organization of medical examinations of children's teams, the development of measures for disease prevention and control over their implementation. Analysis of the results of medical examination of children of different age groups.

Topic 3 (independent work). Study of the regulatory framework and algorithm for conducting sanitary examination of projects of children's institutions.

Features of placement of children's institutions of different types in settlements. Hygienic requirements for the land plot of educational institutions. Features of planning and sanitary equipment of buildings of educational institutions.Тема № 4 (самостійна робота).

Topic № 4 (independent work). Occupational health of medical workers in treatment and prevention facilities.

Hygienic significance of planning, equipment, optimal mode of operation of treatment and prevention facilities as a basis for creating safe working conditions for medical staff. Occupational hazards, hygiene and labor protection of medical staff of various departments of the hospital (surgical, therapeutic, infectious, psychoneurological profile and others). Occupational hazards, hygiene and labor protection of medical staff of diagnostic, physiotherapeutic, balneological, resuscitation and other specific departments and laboratories of the hospital. Legislative and organizational measures for labor protection of medical workers. Personal hygiene of medical staff in the health care system and ensuring favorable working conditions and prevention of nosocomial infections and occupational diseases.

Blok 3. Food hygiene

Specific goals:

To substantiate the qualitative and quantitative composition of the diet, diet for children of different ages.

To provide medical support for the organization of food in children's institutions of various types.

Justify the introduction of foods with high biological value into the diet .

Know the algorithm for organizing dietary nutrition for certain categories of children on the basis of children's institutions of different types.

Plan the organization of preventive measures to prevent food poisoning in children's groups.

Topic № 6. Methods of studying and assessing the nutritional status of children of different ages, justification of their nutrient needs. Methods for assessing the adequacy of nutrition of organized children's groups on the menu layout. Methods for assessing

school breakfast and investigating cases of food poisoning in organized children's groups.

Physiological and hygienic bases of nutrition of children of different ages taking into account individual needs. Nutritional theories, modern aspects of nutrition of children and adolescents. Baby food as a social problem. Alimentary diseases, classification, prevention.

Hygienic characteristics of different food groups. Scientific and technological progress and its impact on the quality of children's nutrition. Genetically modified products as a hygienic problem at the present stage. Modern technologies of food production for children. The concept of products of high biological value, biologically active additives, adaptogenic products. Legislation.

Sanitary and educational work of a pediatrician on the nutrition of children and adolescents. Scientific bases of the organization of rational and medical (dietary) food in children's institutions. Methods of hygienic assessment of food adequacy according to the menu layout, its correction based on the analysis of the state of health of the individual and the team of children and adolescents. Artificial C- vitaminization of food, algorithm of its carrying out in the organized children's collectives.

Hygienic requirements for school breakfast and the range of school cafeterias.

Classification of food poisoning. Food poisoning of microbial nature, epidemiological features and prevention measures. Food poisoning of non-microbial nature, their prevention. The impact of residual amounts of chemicals in food on the health of children . Responsibilities of health professionals in investigating cases of food poisoning. Normative base of the organization of work of food blocks of children's institutions, a role of the pediatrician in medical and sanitary maintenance of their work.

Topic № 5 (independent work). Hygienic assessment of the organization of food in children's health facilities of different types.

Features of the organization of preventive and dietary nutrition in children's institutions. The use of products of high biological value in the diet of children and adolescents during their stay in health facilities. Hygienic requirements for the supply of food, food raw materials, their safety and quality.

The structure of the discipline

№ s/n	Name the topics	Number of hours			
		Total	including:		
			lectures	practical training	individual work
Block 4. Hygiene					
1	Methodological, methodical bases of studying and estimation of potential risk of influence of environmental factors on public health. Preventive toxicology. Principles and methods of hygienic regulation of harmful chemicals in various environmental objects.	6	-	6	6

2	Measures to prevent diseases that spread through water, soil and associated with air pollution.	6	-	6	6
3	Methods of hygienic assessment of patients' conditions in treatment and prevention facilities and radiation protection when working with closed and open sources of ionizing radiation. The method of organizing the monitoring of the health of children living in radiation in a contaminated area. Hygienic provision of paramilitary formations, rescue teams and the injured population in emergencies.	6	-	6	6
4	Methods of monitoring the health of children and adolescents. Comprehensive assessment of individual, population health and physical development of children. Methods of hygienic control over the organization of the educational process in preschool educational institutions and secondary schools. School maturity, methods of its study.	6	-	6	6
5	Methods of hygienic control over the organization of physical education in preschool educational institutions and secondary schools. Methods of hygienic assessment and school environment, children's items vzhy weave. Hygienic bases of labor activity of teenagers, methods of professional selection and career guidance. Functional responsibilities of a doctor in a teenage office for career guidance work.	6	-	6	6
6	Methods of studying and assessing the nutritional status of children of different ages, substantiation of their nutrient needs. Methods for assessing the adequacy of nutrition of organized children's groups according to the menu- layout. Methods for assessing school breakfast and investigating cases of food poisoning in organized children's groups.	6	-	6	7
7	Final control	2	-	2	-
	Total hours per unit	75	-	38	37

METHODS OF CONTROL

Assessment is one of the final stages of learning activities and determining learning success. The grade for the discipline is set as the average of the grades for the thematic modules on which the discipline is structured.

Evaluation of current educational activities. During the assessment of mastering each topic for the current educational activity of the student grades are set on a 4-point (traditional) scale, taking into account the approved assessment criteria for the discipline. This takes into account all types of work provided by the curriculum. The student receives a grade on each topic. Forms of assessment of current educational activities include control of theoretical and practical training. Scores on the traditional scale are converted into points .

Excellent 10b-"5" - The student correctly answered 90-100% of the tests of format A. Correctly, clearly, logically and fully answers the standardized question of the current topic, including questions of independent work. Closely connects theory with practice and correctly demonstrates the implementation of practical skills. Freely solves a situational problem, is able to generalize the material, has the methods of hygienic research.

Good 7b-"4" - The student correctly answered 70-89% of the tests of format A. Correctly, in fact, answers the standardized question of the current topic and independent work on it. Demonstrates practical skills. Correctly uses theoretical knowledge about solving a situational problem. Has the necessary practical skills and techniques to perform them to an extent that exceeds the required minimum.

Satisfactory 4b-"3" - The student correctly answers 50-69% of the tests of format A. Incomplete answers to the standardized question of the current topic and independent work on it. Cannot build a clear, logical answer on their own. During the demonstration of practical skills, solving a situational problem makes mistakes, has only a mandatory minimum of research methods .

Unsatisfactory 3b-"2" - The student answered less than 50% of the tests of format A. Does not have the material of the current topic, can not build a logical answer. Makes significant, gross mistakes when demonstrating practical skills and solving a situational problem.

For disciplines the form of final control which is a test:

The maximum number of points that a student can score for the current academic activity in the studied discipline is 200 points.

The minimum number of points that a student must score for the current academic activity to enroll in the discipline is 120 points.

The calculation of the number of points is based on the student's marks on the radiation scale during the study of the discipline during the semester, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted into points on a multi-point scale as follows:

$$x = \frac{CA\ X\ 200}{5}$$

The table of recalculation on a 200-point scale is given:

CONVERSION OF THE AVERAGE ASSESSMENT FOR CURRENT ACTIVITY IN MULTI-SCALE SCALE FOR DISCIPLINES (DIFFERENTIATED CREDIT)

4-point	200-point	4-point	200-point	4-point	200-point	4-point	200-point

scale	scale	scale	scale	scale	scale	scale	scale
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	122
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141	Less than 3	Not enough
4.6	184	3.04	162	3.5	140		
4.57	183	3.02	161	3.47	139		
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Discipline scores for students who have successfully completed the program are converted into a traditional 4-point scale according to the absolute criteria, which are given in the table below:

Points in the discipline	**Score on a 4-point scale**
From 170 to 200	5
From 140 to 169	4
From 139 points to the minimum number of points that a student must score	3
Below the minimum number of points you must recruit a student	2

The ECTS score is not converted to the traditional scale, as the ECTS scale and the four-point scale are independent.

METHODOLOGICAL SUPPORT

1. Hygiene and ecology: Methodical instructions for practical classes and independent work for students of VI courses of medical faculties on a specialty 7.12010002 "Pediatrics" / Edited by MD, prof. BP Kuzminov. - Lviv., 2015. - 75p.

2. Hygiene and Ecology: A Textbook for Preparation for the Licensing Exam Step-2 "General Medical Training" / Ed. Б.А. Plastunova. - Lviv, 2011. - 263p.

3. Hygiene and ecology: A collection of updated test bank to prepare for the licensing exam Step-2 "General medical training" / Ed. MD, prof. BP Kuzminov. - Lviv, 2013. - 46p.

4. The list of typical tasks, skills and practical skills for the state exam in hygiene for students of VI courses of medical faculties in the specialty "Pediatrics". - Lviv, Danylo Halytsky LNMU , 2014. - 25 p.

LIST OF ISSUES TO BE FINISHED FOR FINAL CONTROL

1. Hygiene of children and adolescents as a branch of hygiene and sanitary practice. The main problems of the discipline at the present stage of development of medical science. Features of children's health formation in modern ecological and economic conditions.

2. Periodization of childhood. Regional standards of physical development, requirements for their creation.

3. The concept of health in childhood, criteria and indicators of health. Physical development as the main indicator of health. The purpose and objectives of the study of physical development.

4. Biological laws and social patterns of growth and development of the child.

5. The role of a pediatrician in the organization of medical examinations of children's teams, the development of measures for disease prevention and control over their implementation.

6. Methods of hygienic assessment of health and physical development of the individual and the team.

7. Comprehensive assessment of the child's physical development, development of measures for biocorrection of health. Assessment of the state of health of the children's contingent of innovative educational institutions.

8. Analysis of the results of medical examination of children of different age groups.

9. Types of day modes. Hygienic requirements for the daily routine of children of different ages.

10. Hygienic requirements for the organization of the daily routine and educational process in children's institutions.

11. Sanitary requirements for the use of technical means of education.

12. Preventive recommendations for improving the organization of the educational process.

13. Justification of the age of the beginning of the child's education at school. Criteria and algorithm for assessing school maturity. The role of a pediatrician in the work of the medical and pedagogical commission.

14. Physical education as a major factor in health biocorrection.

15. Forms and means of physical education in children's institutions of various types.

16. Tempering: general and special measures, features of their carrying out in children's establishments of various type.

17. Organization of medical and pedagogical control over physical education in preschool at the school and school.

18. Functional responsibilities of a doctor of a preschool educational institution and a school doctor during medical and pedagogical control.

19. The importance of forming a school environment, workplace, living space for children of different ages in strengthening and maintaining their health.

20. Hygienic requirements for planning and equipment of school classroom, computer room. Hygienic requirements for the design and parameters of educational furniture as factors in ensuring the physiological posture of the student at the desk.

21. Preventive recommendations for sanitary and hygienic conditions of students' stay in the educational institution.

22. Features of placement of children's institutions of different types in settlements. Hygienic requirements for the land plot of educational institutions.

23. Features of planning and sanitary equipment of educational institutions.

24. Regulatory framework and algorithm for conducting sanitary examination of projects of educational institutions, children's items (books, textbooks, toys, shoes, clothes, etc.).

25. The importance of water and water supply conditions in the spread of pathogens of infectious diseases of bacterial, viral, protozoal and helminthic etiology.

26. Causes and signs of epidemics of aquatic origin. Prevention measures.

27. The role of water in the occurrence of diseases of non-infectious origin. Hygienic significance of the lack of some microelements of water in the development of endemic caries, fluorosis, goiter, chronic non-communicable diseases.

28. Hygienic value of toxicological indicators of drinking water quality. Water-nitrate methemoglobinemia. Diseases of Minimata, itai-itai, Yusho. Measures to prevent non-communicable diseases among the population.

29. The main sources of surface water pollution, their hygienic characteristics.

30. System of measures for protection of surface water bodies from sewage pollution.

31. The main sources of soil pollution, their hygienic characteristics.

32. Impact of contaminated soil on public health and sanitary living conditions.

33. The role of soil in the spread of infectious diseases and invasions.

34. Natural and artificial biogeochemical provinces and diseases of non-infectious etiology.

35. The main sources of air pollution and their hygienic characteristics.

36. Atmospheric air quality assessment and methods for determining the risk and impact of air pollutants on health. System of measures for prevention of air pollution.

37. Impact of air pollution on health and sanitary living conditions of the population.

38. Methods for determining the expected effects on the health of the population depending on the level and degree of danger of air pollution.

39. Basic hygienic requirements for planning, equipment, mode, operation of medical, diagnostic, auxiliary and household units of the hospital.

40. Hygienic standards of microclimate, air environment, ventilation, natural and artificial lighting of various departments of the hospital, their importance for the effectiveness of treatment of patients and working conditions of medical staff.

41. Harmful and dangerous factors of different departments of the hospital (diagnostic, physiotherapeutic, balneological, etc.), their impact on the health of patients.

42. Modern scientific concepts of irradiation levels.

43. Features of radiation protection of medical staff and patients when working with closed and open sources of ionizing radiation in modern medical institutions for children and adolescents.

44. Features of health formation of children of different age groups living in areas with high radiation background.

45. Medical and hygienic aspects of the organization of life, food, training of children's contingents. Organization of medical control over the formation of the health of children's contingents.

46. Prevention of bad habits in children and adolescents.

47. Physiological and hygienic basis of children's nutrition, taking into account individualneeds.

48. Nutritional theories, modern aspects of nutrition of children and adolescents. Alimentary diseases, classification, prevention.

49. Hygienic characteristics of different food groups.

50. Scientific and technological progress and its impact on the quality of children's nutrition.

51. Genetically modified products as a hygienic problem at the present stage.

52. Modern technologies of food production for children.

53. The concept of products of high biological value, biologically active additives, adaptogenic products.

54. Legislation in the field of food hygiene for children and adolescents.

55. Sanitary and educational work of a pediatrician on the nutrition of children.

56. Scientific bases of the organization of rational and medical and preventive food in children's establishments.

57. Methods of hygienic assessment of food adequacy according to the menu layout and its correction based on the analysis of the state of health of the individual and the team of children and adolescents.

58. Artificial C-vitaminization of food, the algorithm of its implementation in organized children's groups.

59. Hygienic requirements for school breakfast and the range of school cafeterias.

60. Features of the organization of preventive and dietary food in children's institutions.

61. Classification of food poisoning. Food poisoning of microbial nature, epidemiological features and prevention measures.

62. Food poisoning of non-microbial nature, their prevention.

63. The effect of residual amounts of chemicals in food on the health of children.

64. Responsibilities of health professionals in investigating cases of food poisoning.

65. Normative base of the organization of work of food blocks of children's institutions, a role of the pediatrician in medical and sanitary maintenance of their work.

66. Fundamentals of sanitary and labor legislation in the field of occupational health, the main provisions of legislative documents governing the work of adolescents.

67. Methods of hygienic assessment of the facts of the production environment and forecasting the body's response to their impact.

68. Vocational guidance, professional selection and professional counseling of adolescents.

69. The role of the pediatrician in choosing the professional direction of the child at different ages. The physiological cost of mastering professional skills as a forecast of the success of professional selection.

70. Occupational health of medical workers in treatment and prevention facilities.

71. Hygienic significance of planning, equipment, mode of operation of treatment and prevention facilities as a basis for creating safe working conditions for medical staff.

72. Occupational hazards, hygiene and labor protection of medical staff of various departments of the hospital (surgical, therapeutic, infectious, psychoneurological profile and others).

73. Occupational hazards, hygiene and labor protection of medical staff of diagnostic, physiotherapeutic, balneological, resuscitation and other specific departments and laboratories of the hospital.

74. Legislative and organizational measures for labor protection of medical workers.

75. Personal hygiene of medical staff in the health care system and ensuring favorable working conditions and prevention of nosocomial infections and occupational diseases.

LIST OF PRACTICAL SKILLS AND SKILLS

1. To analyze the drinking regime based on the results of water research in children's institutions.

2. Be able to link the etiology of infectious and non-infectious diseases with the quality of drinking water. Develop measures for their prevention.

3. Assess the conditions of wastewater discharge into surface water bodies of the I-II category of water use.

4. To carry out sanitary examination of the sewerage scheme of the settlement, separately located object in (hospital, children's institution).

5. Develop measures for soil remediation on the land plots of children's institutions and prevention of infectious and non-infectious diseases caused by soil contamination.

6. Organize monitoring and evaluation of microclimate indicators in children's institutions.

7. To make a conclusion about efficiency of work of the ventilating and heating equipment, air conditioning.

8. To give recommendations on the organization of artificial lighting of premises of different function where children are.

9. Evaluate the effectiveness of radiation protection of medical personnel when working with closed and open sources of ionizing radiation.

10. Assess functional changes in the child's body under the influence of different activities.

11. To give recommendations on the organization of the work regime and the formation of the production environment in the involvement of children and adolescents in the labor process.

12. Conduct a professional consultation of the adolescent.

13. Assess the range of adverse factors of the production environment and carry out professional selection of adolescents.

14. Assess the nutritional status of the child and justify the needs of the individual in nutrients.

15. Assess the adequacy of nutrition in children's teams according to the menu layout.

16. Give a hygienic assessment of school breakfast.

17. To make an algorithm of investigation of a case of food poisoning in children's collective.

18. Carry out medical control over the process of cooking in the food units of children's institutions of various types.

19. Assess the impact of environmental factors on the health of children and adolescents.

20. Develop an algorithm for developing regional standards of physical development.

21. Assess the health and physical development of the individual and the team of children.

22. Give recommendations on the organization of the daily routine, the educational process in institutions of various types for children and adolescents.

23. To determine the functional readiness of the child to study at school.

24. To give a hygienic assessment of the conditions of the school environment, workplace, living space of the child.

25. To make algorithm of carrying out of hygienic examination of projects of educational institutions and subjects of children's use, to be able to use in the corresponding

normative base.

26. Assess the medical support of physical education in children 's institutions of different types.

27. Carry out medical and pedagogical control over the organization of physical education in children 's institutions of various types.

28. To make algorithm of the organization of hardening of children of different age groups.

29. Orient in the information space of sanitary legislation and be able to use its regulatory framework in the organization of preventive measures.

Example of a test ticket

CREDIT TICKET № 0

Petro Mohyla Black Sea National University

Level of higher education - master

Field of knowledge: 22 "Health care"

Specialty 222 "Medicine"

Academic discipline

Hygiene and ecology

Option № 0

1. Hygiene as a scientific discipline, its purpose, objectives, objects of study.
2. Physical nature and hygienic value of natural light.
3. Hygienic value of air humidity, humidity indicators, measurement methods.
4. Sources and hygienic value of dust in the air of industrial premises.

Approved at a meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № ___ dated ____ 2021

Head of the Department Doctor of Medicine Prof. Zyuzin VO

Examiner Ph.D. Associate Professor (B.Sc.) Muntyan L.Ya.

EXAMINATION TICKET № 0

Petro Mohyla Black Sea National University

Level of higher education - master

Field of knowledge: 22 "Health care"

Specialty 222 "Medicine"

Academic discipline

Hygiene and ecology

Option № 0

1. The main types of biological (biogenic and abiogenic) action of UVR and its features for each region of the spectral composition of UVR.
2. Soil as a factor in the transmission of infectious diseases.
3. Definition of "microclimate", its hygienic value.
4. Biological action of vibration, vibration disease. Fundamentals and principles of hygienic vibration normalization.

Approved at a meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № ___ dated ____ 2021

Head of the Department Doctor of Medicine, Prof. Zyuzin V.O.

Examiner Ph.D. Associate Professor (B.Sc.) Muntyan L.Ya.

Example of the final control work on block 1

1. Define the concept of "solar radiation":
A. Integral flux of corpuscular particles and electromagnetic radiation
B. The force field generated by stationary electric charges
C. Surface density of light
D. Optical radiation
E. Physical field due to magnetic field

2. List the main components of the electromagnetic spectrum of solar radiation:
A. Gamma radiation, X-rays, ultraviolet radiation, infrared radiation, the visible part of the spectrum, radio radiation
B. Gamma radiation, X-rays, ultraviolet radiation, the visible part of the spectrum, infrared radiation, radio radiation

C. X-rays, gamma radiation, ultraviolet radiation, visible part of the spectrum, radio radiation, infrared radiation
D. X-rays, gamma radiation, infrared radiation, ultraviolet radiation, visible part of the spectrum, radio radiation
E. Gamma radiation, X-rays, ultraviolet radiation, visible part of the spectrum, radio radiation, infrared radiation

3. Indicate the correct distribution of the main components of solar radiation (infrared: visible: ultraviolet radiation) at the upper limit of the atmosphere:
A. 40%: 45%: 15%
B. 43%: 52%: 5%
S. 55%: 25%: 20%
D. 59%: 40%: 1%
E. 60%: 35%: 5%

4. Specify the correct distribution of the main components of solar radiation (infrared: visible: ultraviolet radiation) on the Earth's surface:
A. 40%: 45%: 15%
B. 43%: 52%: 5%
S. 55%: 25%: 20%
D. 59%: 40%: 1%
E. 60%: 35%: 5%

5. Name what percentage of the total energy of solar radiation near the Earth's surface is the energy of ultraviolet rays:
A. 1%
B. 5%
C. 40%
D. 55%
E. 59%

6. Name the wavelength of the ultraviolet radiation range:
A. 10-290 nm
B. 10-400 nm
Pp. 760-800 nm
D. 760-10000 nm

E. Over 1000 nm

7. The range of the ultraviolet component of the solar spectrum reaching the earth's surface:
A. 10-400 nm
B. 290-400 nm
Pp. 400-700 nm
D. 760-1500 nm
E 760-3000 nm

8. Name the biological effects of ultraviolet radiation:
A. Generally stimulating, tonic
B. Heat-forming, diuretic
C. Biogenic, abiogenic
D. Formation of free radicals, synthesis of actomyosin
E. Hematopoietic, pigment-forming

9. Name which types of biological action of ultraviolet radiation are biogenic:
A. Bactericidal, general stimulating
B. Bactericidal, carcinogenic
C. Antirachitic, general stimulating, pigment-forming
D. Photoallergenic, phototoxic
E. Antirachitic, carcinogenic

10. Name what types of biological effects of ultraviolet radiation are abiogenic:
A. Bactericidal, general stimulating
B. Bactericidal, carcinogenic
C. Antirachitic, general stimulating, pigment-forming
D. Photoallergenic, phototoxic
E. Antirachitic, carcinogenic

11. Indicate which areas will be divided into the range of ultraviolet radiation:
A. A, B
B. A, B, C
S. A, B, C, D
D. A, B, C, D, E

E. Hell, Bd, Sd, Dd

12. Specify the wavelength inherent in the area A of ultraviolet radiation:

A. 10-280 nm

B. 50-200 nm

Pp. 100-250 nm

D. 280-315 nm

E. 315-400 nm

And so 20 tasks with the subsequent analysis of typical errors

LIST OF EDUCATIONAL AND METHODOLOGICAL LITERATURE

Basic:

1. Hygiene and ecology: Textbook / Ed. V.G. Bardov.- Vinnytsia: Nova Kniga, 2006. - 720 p.
2. Hygiene / R.D. Gabovich, S.S. Poznansky, G.H. Shahbazyan. - K .: High school, 1983. - 320 c.
3. General Hygiene / Ed. I.I. Datsenko. - Lviv, 1992. - 302 p.
4. General hygiene: propaedeutics of hygiene: Textbook / E..G. Goncharuk, Y.I. Kundiev, V.G. Bardov, etc .; For order. E.G. Goncharuk. - K .: High school, 1995. - 552 c.
5. General hygiene (propaedeutics of hygiene): Textbook / E.I. Goncharuk, V.G. Bardov, G.I. Rumyantsev, etc .; Ed. E.I. Goncharuk. - K .: High school, 1991. - 384 p.
6. Preventive medicine. General hygiene with the basics of ecology: Textbook / I.I. Datsenko, R.D. Gabovich. - K .: Health, 2004. - 792 p.
7. Hygiene of children and adolescents: Textbook / Ed. V.I. Berzin. - K .: Askania, 2008. - 307 p.
8. Hygiene of children and adolescents: Textbook / I.I. Datsenko, M.B. Shegedin, Y.I. Shashkov. - K .: Medicine, 2006. - 304 p.
9. Hygiene of children and adolescents: Student / V.R. Kuchma. - M .: Medicine, 2001. – 384 p.

Additional:

1. Artamonova V.G., Shatalov N.P. Occupational diseases. - M .: Medicine, 1982. - 416p.
2. Belyakov V.D., Zhuk E.G. Military hygiene and epidemiology. - M .: Medicine, 1988. - 320 p.
3. Hygiene of children and adolescents / Ed. V.N. Kardashenko. - M .: Medicine, 1986. - 512 p.
4. Study of the influence of environmental factors on public health / E.I. Goncharuk , Y.V. Voronenko , N.I. Martsenyuk. - K., 1989. - 204 p.
5. Kirillov S.V., Knizhnikov V.A., Korenkov I.P. Radiation hygiene. - M .: Medicine, 1988. - 215 p.

6. Communal hygiene / E.G. Goncharuk, V.G. Bardov, S.I. Garkavy, O.P. Yavorovsky, etc .; For order . E.G. Goncharuk. - K .: Health, 2003. - 728 p.
7. Communal hygiene / E.I. Goncharuk, V.G. Bardov, S.I. Garkavy, A.P. Yavorovsky, etc .; Ed. E.I. Goncharuk. - K .: Medicine, 2006. - 782 p.
8. Manenko A.K., Sakhnovskaya N.I. Hygiene of medical institutions. - K .: Medicine, 1982. - 214 p.
9. Minh A.A. Methods of hygienic research. - M .: Medicine, 1967. - 526 p.
10. Minh A.A. General hygiene. - M .: Medicine, 1984. - 480 p.
11. Minh A.A. Handbook of Sanitary and Hygienic Research. - M .: Medicine, 1973. – 400p.
12. Novozhilov G.N., Lomov O.P. Hygienic assessment of the microclimate. - L .: Medicine, 1987. - 109 p.
13. Radiation safety standards of Ukraine (NRBU-97). - Kyiv: Ministry of Health of Ukraine, 1997. – 121 p.
14. General hygiene / Ed. G.I. Rumyantseva. - M .: Medicine, 1990. - 288 p.
15. Paranko N.M., Malakhova R.G. Vibration, noise, ultrasound and infrasound and their hygienic value. - Dnepropetrovsk, 1990 - 77 p.
16. Petrovsky K.S. Hygiene issues. - M .: Medicine, 1982. - 528 p.
17. Guide to laboratory classes on the hygiene of children and adolescents (Edited by VI Berzin). - K .: High school, 1989. - 320 p.
18. Guide to laboratory classes in communal hygiene / Ed. E.I. Goncharuk. - M .: Medicine, 1990. - 416 p.
19. Guide to practical occupations in occupational health / Ed. A.M. Shevchenko. - K .: Medicine, High school, 1986. - 326 p.
20. Smolyansky V..L Alimentary diseases. - M .: Medicine, 1979. - 262 p.
21. Smolyar V.I. Rational nutrition. - K .: Scientific thought, 1991. - 368 p.
22. Modern problems of ecohygiene / V.P. Zakharchenko, Y.A. Shcherbak, V.F. Moskalenko, A.P. Yavorovsky, etc. - St. Petersburg-Kiev : Krismas, 2008. - 472 p.
23. Labor and health of medical workers / Ed. V.K. Ovcharova. - M: Medicine, 1985. - 213 p.
24. Food hygiene with the basics of nutrition. Textbook / Ed. V.I. Tsipriyan a. K .: Health, 1999. - 320 p.
25. Yafaev R.X., Zueva LP Epidemiology of nosocomial infections. - L .: Medicine, 1989. - 268 p.