

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Hygiene, Social Medicine and Public Health



2019 year

Course Discription

**Life safety, basics of bioethics and biosafety**

field of knowledge 22 «Health care»

in the specialty 222 «Medicine»

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## 1. Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Life safety, basics of bioethics and biosafety	
Field of knowledge	22 "Health"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Curriculum	I	
Academic year	2019–2020 academic year	
Semester numbers	Full-time	Correspondence form
Total number of ECTS credits /hours	II 3credits /90 hours	
Course structure:	Full-time	Correspondence form
-lectures - seminars (practical, laboratory, semi-group) - hours of independent work of students	– 20 hours – 20 hours – 50 hours	
Percentage of classroom load	44 %	
Language of instruction	Ukrainian	
Form of intermediate control (if any)	certification is absent	

## 2. Purpose, tasks and planned learning outcomes

**The purpose** of studying the discipline "Life Safety: Fundamentals of Bioethics and Biosafety" follows from the goals of the educational and professional training program for graduates of higher medical education and is determined by the content of those systemic knowledge and skills that a doctor must have. The knowledge that students receive from the discipline is basic for a block of disciplines that provide scientific and professional training.

The study of the discipline "Life Safety: Fundamentals of Bioethics and Biosafety" forms a holistic imagination of students and lays the foundations for a healthy lifestyle and prevention of dangerous situations in the professional activities of future general practitioners.

### **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, basics of bioethics and biosafety as an academic discipline:

a) is based on students' understanding of the basic principles of knowledge in anatomy, biology, medical and biological physics, history of medicine, bioinorganic chemistry and integrates with 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 the possibility of conducting a bioethical analysis of clinical situations for further diagnosis, treatment and prevention of diseases.

Learning outcomes announced. As a result of studying the discipline students have:

- 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:

**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;

**be able:**

- to predict the consequences of violations of the valueological 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 healthy and sick people, 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.

**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 (OPP) and is focused on the formation of competencies:

**general (ZK) - ZK1-ZK10 OPP:**

- 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, ability to adapt and act in a new situation;
- ability to choose 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 of information and communication technologies;
- ability to abstract thinking, analysis and synthesis, ability to learn and be modernly trained;
- ability to apply knowledge in practical situations;
- ability to evaluate and ensure the quality of work performed;
- certainty and persistence in terms of tasks and responsibilities;
- ability to act socially responsibly and public consciousness;
- the desire to preserve the environment.

**professional (FC) - FC-19 OPP:**

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

According to the educational-professional program, the expected **program learning outcomes (PRN)** include the skills of PRN4, PRN12 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.
- evaluate information on the diagnosis in the conditions of the health care institution, its subdivision, apply the standard procedure, using knowledge about the person, his safety in the environment, requirements of bioethics and biosafety.

### **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, Life safety; basics of bioethics and biosafety ".

The main tasks of the subject. Classification of hazards. Principles and methods of ensuring the safety of human life. Basics 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 environmental factors

man. Physical negative factors. Negative energy factors

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) created in

Ukraine has a fundamentally new social and economic situation. Now everything is bigger

importance is the division of society by level and source of wealth, availability

or lack 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 when using them. 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 practice of a medical worker. 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 to be identified in the process of medical practice, during the performance of 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 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 is paying close attention to developing scientifically sound approaches to the potential risk of using GMOs that 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 capable to turn, depending on, into cells of fabrics of the most various bodies.

One stem cell gives many active, functional offspring. Right and the values that belong to the human person occupy an important place among the issues discussed today. Human life is the basis and necessary source of and condition of every human activity and society. Donation and transplantation bodies 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.

No s/ n	Topic	Full-time			
		Number of hours			
		total	including:		
lectures practical classes independent work	lectures practical classes independent work		lectures practical classes independent work		
<b>Block 1. The basic principles of health and life safety in modern society</b>					
1.	Topic 1. Theoretical foundations of life safety	9	2	2	5

2.	Topic 2. Physiological, psychological and social foundations of life safety of modern man	9	2	2	5
3.	Topic 3. Negative environmental factors and their impact on human health	9	2	2	5
4.	Topic 4. Valeological and sinological principles of safety of human health and life	9	2	2	5
5.	Topic 5. Bad habits and the associated danger to human life	9	2	2	5
6.	Topic 6. Food safety as a component of safe human life	9	2	2	5
7.	Topic 7. Dangerous and life-threatening infectious diseases in the practice of health care. Occupational hazards in the life of a doctor	9	2	2	5
<b>Block 2. Fundamentals of bioethics and biosafety</b>					
8.	Topic 8. History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine	9	2	2	5
9.	Topic 9. Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies	9	2	2	5
10.	Topic 10. Ethical and legal issues of abortion, transplantation, use of stem cells, donation. Euthanasia. Surrogacy.	9	2	2	5
<b>Total</b>		<b>90</b>	<b>20</b>	<b>20</b>	<b>50</b>

## 4. The content of the discipline

### 4.1. Lecture plan

<b>№ n\n</b>	<b>Topic names</b>	<b>Number of hours</b>
<b>Block 1. The basic principles of health and life safety in modern society</b>		
1.	Topic 1. Theoretical foundations of life safety	2
2.	Topic 2. Physiological, psychological and social foundations of life safety of modern man	2
3.	Topic 3. Negative environmental factors and their impact on human health	2
4.	Topic 4. Valeological and sinological principles of safety of human health and life	2
5.	Topic 5. Bad habits and the associated danger to human life	2
6.	Topic 6. Food safety as a component of safe human life	2
7.	Topic 7. Dangerous and life-threatening hazards in the life of a doctor	2
8.	Topic 8. History of bioethics. Theoretical foundations of bioethics. Bioethics and the formation of the national health care system in Ukraine	2
9.	Topic 9. Legal basis for biometric research. The concept of biosafety and risk, cloning of organs and tissues, genetic engineering technologies	2
10.	Topic 10. Ethical and legal issues of abortion, transplantation, use of stem cells, donation. Euthanasia. Surrogacy.	2
<b>Total</b>		<b>20</b>

### 4.2. Plan of practical classes

An effective form of organization of higher education is seminars and practical classes, which are organically combined with lectures.

Conducting practical classes allows you to solve the following didactic goals:

- optimally combine lectures with systematic independent educational and cognitive activities of students, their theoretical training with practical;
- to develop abilities, skills of mental work, creative thinking, ability to use theoretical knowledge for the decision of practical problems;
- to form students' interest in research work and their involvement in research carried out by the department;
- to provide systematic repetition, deepening and consolidation of students' knowledge on a particular topic;
- to form abilities and skills of realization of various kinds of future professional activity.

№ n\n	Topic names	Number of hours
<b>Block 1. The basic principles of health and life safety in modern society</b>		
1.	<b>Topic 1.</b> Theoretical foundations of life safety. Principles and methods of ensuring the safety of human life. Basics of life safety management. System analysis of life safety. Legal security of human life.	2
2.	<b>Topic 2.</b> 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.	<b>Topic 3.</b> 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.	2
4.	<b>Topic 4.</b> Valeological and sinological principles of forming the safety of human health and life. Spiritual, mental, physical,	2

	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.	
5.	<p><b>Topic 5.</b> Bad habits and the associated danger to human life. The division of society by level and source of wealth, the presence or absence of private property. Under such circumstances, the forms and increase sharply</p> <p>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.</p>	2
6.	<p><b>Topic 6.</b> 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.</p>	2
7.	<p><b>Topic 7.</b> 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.</p>	2
<b>Block 2. Fundamentals of bioethics and biosafety</b>		
8.	<p><b>Topic 8.</b> 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.</p>	2

9.	<b>Topic 9.</b> 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.	<b>Topic 10.</b> 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.	2
<b>Together</b>		<b>20</b>

### 4.3. Tasks for independent work

In the professional training of students a special place is occupied by independent work on the material being studied. The formation of a comprehensively developed student's personality occurs not only under the influence of organized educational activities, but also due to their own individual efforts of the students themselves. It is known that no one just gets a certain set of knowledge, skills and abilities, and can only get through their own efforts.

Students' independent work is a set of various educational techniques and actions, with the help of which they independently consolidate and deepen previously acquired theoretical knowledge, practical skills and abilities, as well as master new ones. It is extremely important for the formation and improvement of professional skills, thinking and beliefs. Therefore, this method is the internal basis of any other method of teaching students and a necessary prerequisite for the didactic connection of different teaching methods. Modern educational processes and the scientific and technological revolution make the method of independent work of students one of the main methods of teaching.

The main types of independent work of students are: work with printed sources; independent training; independent watching of movies, TV programs, listening to radio programs, etc.

Thus, teachers have a fairly strong arsenal of both general and specific methods of teaching students. When using them it is necessary

take into account the psychological and pedagogical patterns of the learning process, the nature and content of the subject, modern requirements for the organization and implementation of didactic

process, the availability of didactic infrastructure in the school, the level

preparedness of subjects and objects of training. Definitely none alone

the method does not solve all problems if not used creatively, in conjunction with other methods.

There are two types of tasks for independent work of students. Task

theoretical nature, which are not thoroughly considered in the lectures, are made for independent mastering by the student. They are a supplement to the lecture course. The student must study the normative and literary sources and be ready to answer the questions during the practical classes and exam. Tasks and tasks are of a practical nature.

#### **Topics for self-study:**

<b>№ n \n</b>	<b>The topic of practical classes</b>	<b>Number of hours</b>
1.	<b>Topic 1.</b> 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.)	5
2.	<b>Topic 2.</b> 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 the human body from danger. The driving apparatus of man. Functional state. Correction of behavior. Reaction time. Conditioned and unconditioned reflexes. Characteristics of analyzers.)	5
3.	<b>Topic 3.</b> 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,	5

	inviolability. Right to self-defense. Limit of self-defense).	
4.	<b>Topic 4.</b> 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).	5
5.	<b>Topic 5.</b> 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 when using them. Methods of combating bad habits.	5
6.	<b>Topic 6.</b> 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.	5
7.	<b>Topic 7.</b> Dangerous and life-threatening infectious diseases in the practice of health care. Occupational hazards in the life of a physician. In the current socio-economic conditions, occupational morbidity has increased in all sectors of production, working and leisure conditions have deteriorated, leading to deteriorating health of workers, increasing the number of accidents and disability, including from infectious diseases. Healthcare workers have a high probability and risk of contracting infectious diseases. The leading harmful factor affecting the health of medical staff is biological, the action of which, unlike others (physical, chemical, etc.), ie the less experience, the higher the incidence.	5



8.	<b>Topic 8.</b> 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.	5
9.	<b>Topic 9.</b> 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.	5
10.	<b>Topic 10.</b> 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.	5
<b>Together</b>		<b>50</b>

#### 4.4. Ensuring the educational process

A number of existing classifications based on different principles should be used to assess and select teaching methods:

- by source of knowledge (distinguish verbal, visual and practical methods, because there are no other sources than word, image and experience);
- at the appropriate stage of training, each of which is solved specific tasks (focus on methods of training students to

study of material that involves the awakening of interest, cognitive needs, updating of basic knowledge, necessary skills and abilities; and methods of studying new

material; and methods of concretization and deepening of knowledge, acquisition of practical skills that contribute to the use of knowledge; and methods of monitoring and evaluation of learning outcomes);

- by way of directing educational activities direct or

indirect (distinguish methods of explaining the teacher and various methods of organizing independent work of students);

- by the logic of the educational process (reliance on inductive and deductive, analytical and synthetic methods);

- for didactic purposes distinguish methods of organizing activities

those who are taught, methods of stimulating activities, such as competitions, competitions, games, incentives and other methods of verification and evaluation.

### **5. Final control**

The form of final control of knowledge is a test. The final control of mastering the discipline is carried out upon its completion at the last lesson of the discipline.

The purpose of control is to conduct an objective, systematic analysis of the course study and mastering by future specialists of the curriculum

material on human anatomy in accordance with the requirements of the qualification

characteristics, curricula, standard and work programs of the discipline.

**Tasks of control** - to express in the evaluation criteria the knowledge acquired by students

and skills on fragments of topics, individual topics and sections of the program material with

disciplines in order to further optimize the educational process, timely

elimination of gaps in students' knowledge, their habituation to independent work.

**Form of control** - 1) control of current performance on each

practical training; 2) periodic academic certification as a result

accumulation of current estimates; 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.

Assessment is carried out according to the traditional 4-point system: "excellent" - 5, "good" - 4, "satisfactory" - 3, "unsatisfactory" - 2.

### Distribution of points received by students

The general assessment of the student's educational activity at each lesson is comprehensive and is stated at the final stage of the lesson in the "Journal of attendance and student performance", the headmaster - in the "Statement of student performance and attendance" in the form of grades on a traditional four-point scale: "5" , "4", "3", "2" and in points.

### Scheme of accrual and distribution of points received by students

Ongoing testing, surveys and independent work							PC	Number of points on the test	Sum			
Module № 1							Модуль № 2			20	80	200
T1	T2	T3	T4	T5	T6	T7	T 8	T9	T 10			
12	12	12	12	12	12	12	12	12	12			

T1, T2 ..... T10 - topics of practical classes

### Student assessment scale

The sum of points	Rating TCNS	On a national scale	Test
180-200	A	Perfectly	Credited
160-179	B	Very good	Credited
150-159	C	Fine	Credited
130-149	D	Satisfactorily	Credited
120-129	E	Enough	Credited
70-119	FX	Unsatisfactory (reusable)	Credited
1-69	F	Unsatisfactory (with required re-course)	Not credited

The maximum number of points (200 points) that a student can score for the current educational activity in the study of the discipline is calculated by multiplying the number of points corresponding to the grade "5" - 19 points, the number of topics and adding points for individual tasks (10 points). The maximum

number of points for the current academic activity of the student - 200. The minimum number of points that a student must score when studying the discipline is calculated by multiplying the number of points corresponding to the grade "C" - 12 points by the number of topics in module (10). Obtaining a minimum number of points per module (120 points) is a prerequisite for grading "passed". The minimum number of points for the current educational activities of the student - 120.

At the last thematic lesson on the subject after studying the topic of the lesson, the teacher of the study group announces the amount of points that each student of the group scored on the results of the current control. A student receives a grade of "credited" if he / she does not have class absences and has scored at least the minimum number of points; grade "not credited" - if the student has unfinished absences from practical classes or lectures, or the total number of points for the current control is less than the minimum.

Students who received a grade of "not enrolled", after completing the missed classes must be the main (basic) questions (orally or in writing) of the discipline during the individual-consultative work of the teacher of the relevant academic (semester) group. Re-taking the test is allowed no more than 2 times and is carried out at the direction of the dean's office.

## **6. Evaluation criteria and diagnostic tools for learning outcomes**

Modern didactics distinguishes the following methods of control: methods of oral control, methods of written control, methods of practical control, didactic tests, observations, methods of graphic control, methods of programmed and laboratory control.

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 is carried out during seminars and practical classes in the form of a sample oral interview and test tasks, preparation of reports on the topic of the lesson, additions to reports, participation in discussions, presentations of independent tasks.

- block control is organized in the form of standardized survey on theoretical issues, writing current students written test tasks, practical tasks on meaningful ARI

- assessment of the level of performance of individual work is carried out

on the basis of checking the content of the work and its defense in the form of a report, abstract.

- the individual task is checked for compliance with the design

according to the requirements, as well as the completeness, thoroughness of the material, the presence of interesting facts and examples, conclusions.

## **7. Recommended sources of information**

Normative legal acts of Ukraine in the current edition.

### **Basic.**

#### **Block 1. "Life safety"**

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