

MINISTRY OF HEALTH OF UKRAINE
HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
«BUKOVINIAN STATE MEDICAL UNIVERSITY»

"APPROVE"

Vice-rector for scientific and pedagogical work
Associate Professor I.V. Gerush
" 24 " 08 2020

**STUDENT GUIDE
(SYLLABUS)
of studying the discipline**

«FUNDAMENTALS OF BIOETHICS AND BIOSAFETY»

Field of knowledge 22 Healthcare
(code and name of the field of knowledge)
Specialty 226 "Pharmacy, industrial pharmacy"
(code and name of the specialty)
Educational degree Master
(master, bachelor, junior bachelor)
Educational year 1
Form of study full-time
(full-time, part-time, distance)
Department pharmacology, hygiene and ecology
(name of the department)


Approved at the methodical session of the department of pharmacology
"16" june 2020 (Protocol №12.1).

Head of the Department  (I.I. Zamorskii)
(signature)

Approved at the methodical session of the department of hygiene and ecology
"21" august 2020 (Protocol №1).

Head of the Department  (L.I. Vlasyk)
(signature)

Approved by the subject methodical commission for disciplines of the hygiene profile
"25" august 2020 (Protocol № 1).

Chairman of the subject methodical
commission  (S.E. Deyneka)
(signature)

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«FUNDAMENTALS OF BIOETHICS AND BIOSAFETY»

Field of knowledge 22 Healthcare
(code and name of the field of knowledge)

Specialty 226 Pharmacy
(code and name of the specialty)

Educational degree Master
(master, bachelor, junior bachelor)

Educational year 1

Form of study full-time
(full-time, part-time, distance)

Department hygiene and ecology, pharmacology,
(name of the department)

Approved at the methodical session of the department of pharmacology
" ____ " _____ 20__ (Protocol № __).

Head of the Department _____ (I.I. Zamorskii)
(signature)

Approved at the methodical session of the department of hygiene and ecology
" ____ " _____ 20__ (Protocol № __).

Head of the Department _____ (L.I. Vlasyk)
(signature)

Approved by the subject methodical commission for disciplines of the hygienic profile
" ____ " _____ 20__ (Protocol № __).

Chairman of the subject methodical
commission for disciplines
of the hygienic profile _____ (S.E. Deineka)
(signature)

1. GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL STAFF WHO TEACH THE SUBJECT

Department	Hygiene and ecology
Surname, name of scientific and pedagogical staff, scientific degree, academic status	Yavorenko K.Y. – assistant yavorenko.kateryna@bsmu.edu.ua
Web page of the department on the official website of the university	https://www.bsmu.edu.ua/hygiene
Department website	http:// hygiene.bsmu.edu.ua/
E-mail	hygiene@bsmu.edu.ua
Address	Chernivtsi, Popovycha str., 17
Contact phone	+38 (0372) 57-09-77

Department	Pharmacology
Surname, name of scientific and pedagogical staff, scientific degree, academic status	Drachuk Vira – PhD, assistant drachuck.vira@bsmu.edu.ua
Web page of the department on the official website of the university	https://www.bsmu.edu.ua/farmakologiyi/
Department website	http://pharmacology.bsmu.edu.ua/
E-mail	pharmacology@bsmu.edu.ua
Address	Chernivtsi, Popovycha str., 17
Contact phone	+38 (0372) 53-52-62

2. GENERAL INFORMATION ABOUT THE DISCIPLINE

Status of the discipline	normative (full-time/part-time)
Number of credits	3
Total amount of hours	90
Lectures	24
Practical lessons	16
Individual work	50
Type of final control	credit

3. DESCRIPTION OF THE DISCIPLINE (ABSTRACT)

The subject of the discipline is the new mastery of ethical principles, laws, rules governing the professional conduct of pharmaceutical 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, humanity and the biosphere as a whole; formation of respect for the life and dignity of a healthy and sick person, whose interests should always be valued above the interests of science or society. According to the curriculum, the discipline is studied by students together with basic disciplines: biology with the basics of genetics, biological physics with physical methods of analysis, general and inorganic chemistry, human anatomy and physiology, ethics and deontology in pharmacy, admission to pharmacy and integrated with relevant programs. In turn, knowledge of the basic valeological principles of a healthy lifestyle and the basics of ethical and legal norms of regulation of professional behavior of pharmaceutical workers creates the basis for further study of clinical and hygienic disciplines, provides integration with these disciplines and the formation of skills and knowledge of life safety. . The study of the discipline "Fundamentals of Bioethics and Biosafety" contributes to the development of pharmacists' sense of responsibility for the condition of patients, cultivate compassion and love for the chosen profession. The discipline "Life Safety, Fundamentals of Bioethics and Biosafety" consists of two content modules: Life Safety and Fundamentals of Bioethics and Biosafety.

4. POLICY OF THE SUBJECT

4.1. *List of normative documents:*

- Regulations on the organization of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/polozhennya-pro-organizacziyu-osvitnogo-proczesu-u-vidnu-bukovinskij-derzhavnij-medichnij-universitet.pdf>);
- Instructions for assessing the educational activities of BSMU students in the implementation of the European credit transfer system of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/bdmu-instrukciya-shhodo-oczinyuvannya-%D1%94kts-2014-3.pdf>);
- Regulations on the procedure for reworking missed and uncredited classes (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf>);
- Regulations on the appeal of the results of the final control of knowledge of higher education (<https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf>);
- Codex of Academic Integrity (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf);
- Moral and ethical codex of students (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics_code.docx);
- Regulations on the prevention and detection of academic plagiarism (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/antiplagiat-1.pdf>);
- Regulations on the procedure and conditions for students to choose elective courses (https://www.bsmu.edu.ua/wp-content/uploads/2020/04/nakaz_polozhennyz_vybirkovi_dyscypliny_2020.pdf);
- Rules of internal labor regulations of the Higher State Educational Institution of Ukraine "Bukovinian State Medical University" (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/17.1-bdmu-kolektivnij-dogovir-dodatok.doc>).

4.2. *Policy on adherence to the principles of academic integrity of higher education students:*

- independent performance of educational tasks of current and final controls without the use of external sources of information;
- cheating during control of knowledge is prohibited;
- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

4.3. *Policy on adherence to the principles and norms of ethics and deontology by higher education students:*

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;
- compliance with the rules of internal regulations of the university, to be tolerant, friendly and balanced in communication with students and teachers, medical staff of health care institutions;
- awareness of the importance of examples of human behaviour in accordance with the norms of academic integrity and medical ethics.

4.4. *Attendance policy for higher education students:*

- attendance at all training sessions (lectures, practical (seminar) classes, final modular control) is mandatory for the purpose of current and final assessment of knowledge (except for respectable reasons).

4.5. *Deadline policy and completion of missed or uncredited classes by higher education students:*

- reworks of missed classes are held according to the schedule of missed or uncredited classes and consultations.

5. PRECISIONS AND POST-REQUIREMENTS OF THE EDUCATIONAL DISCIPLINE (INTERDISCIPLINARY RELATIONS)

List of disciplines, on which the study of academic discipline is based	List of academic disciplines, for which the basis is laid as a result of studying the discipline
Human Anatomy	Internal Medicine
Human Physiology	Surgery
Medical Biology	Pediatrics
Medical Physics	Hygiene and Ecology
Biochemistry	
Philosophy	
History of Medicine	

6. PURPOSE AND TASKS OF THE EDUCATIONAL DISCIPLINE:

6.1. The purpose of studying the discipline is:

- formation of a conscious approach to the issue of personal safety of a person and the safety of other people, and material and moral values;
- development of the ability to assess potential hazards, determine methods of reliable protection against them;
- studying the laws, principles and rules for regulating the professional behaviour of medical practitioners and researchers,
- promoting the safety of the use of new medical technologies and warning doctors and scientists about the inadmissibility of harming a person, humanity and the biosphere in general;
- formation of respect for the life and dignity of a healthy and sick person, whose interests should always be valued above the interests of science or society;
- development of the ability not only to identify and analyse conflict situations arising at the intersection of medicine, biology, philosophy and jurisprudence but also to determine specific ways to resolve them;
- development of the ability to be guided by new ethical principles and to act on the basis of ethical considerations (motives) in the practice of health care.

6.2. The main tasks of studying the discipline are:

- to determine the basic principles of safe human life;
- to anticipate the consequences of violations of the valeological foundations of a healthy lifestyle and their impact on the safety of human life;
- to analyse and assess situations that are dangerous to people's lives, their health and professional activities, and independently make decisions on taking urgent measures.
- to be guided by the principles of nooethics and act on the basis of ethical considerations to prevent a global environmental crisis, which can become catastrophic and irreversible;
- to be able to identify, analyse, resolve ethical questions or disagreements that emerge in the practice of health care.

7. COMPETENCIES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE DISCIPLINE:

7.1. Integral competence:

Ability to solve typical and complex specialized problems and critically comprehend and solve practical problems in professional pharmaceutical and / or research and innovation activities using the provisions, theories and methods of basic, chemical, technological, biomedical and

socio-economic sciences; integrate knowledge and solve complex issues, formulate judgments on insufficient or limited information; clearly and unambiguously convey their own knowledge, conclusions and their validity to professional and non-professional audience.

7.2. General competencies:

GC 1. Ability to act socially responsible and civic conscious.

GC 3. The desire to preserve the environment

GC 6. Knowledge and understanding of the subject area and understanding of professional activity.

GC 7. Ability to adapt and act in a new situation.

GC 10. Ability to choose communication strategy, ability to work in a team and with experts from other fields of knowledge / types of economic activity.

GC 12. Ability to conduct research at the appropriate level

7.3. Professional (special) competencies:

PC 1. Ability to use in professional activities knowledge of regulations, legislation of Ukraine and recommendations of good pharmaceutical practices

PC 17. Ability to monitor the effectiveness and safety of the population in the use of drugs according to their clinical and pharmaceutical characteristics, as well as subjective signs and objective clinical, laboratory and instrumental criteria for examination of the patient.

PC 21. Ability to conduct sanitary and educational work among the population in order to prevent common diseases of internal organs, prevent dangerous infectious and parasitic diseases, as well as to facilitate the timely detection and maintenance of adherence to treatment of these diseases according to their medical and biological characteristics and microbiological characteristics/

8. RESULTS OF STUDYING THE DISCIPLINE

As a result of studying the discipline student must:

8.1. General learning outcomes

GLO 1. Carry out professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health.

GLO 3. Adhere to the norms of sanitary and hygienic regime and safety requirements in carrying out professional activities.

GLO 6. Argue information for decision-making, be responsible for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activities.

GLO 7. Perform professional activities using creative methods and approaches.

GLO 10. Adhere to the norms of communication in professional interaction with colleagues, management, consumers, work effectively in a team.

GLO 12. To analyze the information received as a result of scientific researches, to generalize, systematize and use it in professional activity.

8.2. Professional learning outcomes:

PLO 1. To plan and implement professional activities on the basis of regulations of Ukraine and recommendations of good pharmaceutical practices.

PLO 17. Use data from clinical, laboratory and instrumental studies to monitor the effectiveness and safety of drugs.

PLO 21. To carry out sanitary-educational work in professional activity at occurrence of outbreaks of infectious diseases.

9 INFORMATIONAL SCOPE OF THE DISCIPLINE

Content module 1. BASICS OF BIOSAFETY

Topic 1. Theoretical bases of Safety and Security of Life.

Subject "Safety of life. The main tasks of the subject. Axiom of potential danger. Classification of hazards. Risk concept. Risk management. Principles for determining the acceptable level of negative factors related to human health. 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. Human in the system "human – the environment".

Man as a bioenergy system. 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 analysers of the human body in the assessment of factors of the system "man - habitat". Weber-Fechner law. Psychological factors that determine a person's personal safety. Psychophysiological state of the organism. Dependence of the body on external stimuli. Rational modes of work and rest. 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. Methods and means of human protection. Features of the state of ecological safety of Ukraine. Comprehensive risk assessment of anthropogenic factors on human safety and health.

Topic 3. The role of the environment in the system "human - the environment".

The external environment and the environment of human life. Classification and characteristics of the human life 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. Methods and means of human protection. Features of the state of ecological safety of Ukraine. Comprehensive risk assessment of the impact of anthropogenic factors on human safety and health.

Topic 4. Providing the safety of human life.

Human health as a biomedical and social category. Spiritual, mental, physical, social aspects of human health. Health and pathology. Valeology and sanology, definitions, essence and subject of their study. Individual health indicators. Factors that ensure the stability of health. Risk factors and risk groups. The concept of lifestyle, its features in modern conditions. Wellness traditional and non-traditional systems, methods of recovery. The 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 5. Food safety as a component of safe lifestyle.

The impact of nutrition on human life. Requirements for food quality and safety. Food additives as possible contaminants. Consequences of food contamination by pesticides. Growth stimulants and other chemicals used in agriculture. Genetically modified products and their danger to human health. Radionuclides in food. Nutrition in conditions of radiation pollution. Toxic substances in food: permissible background residues, maximum permissible level of residues in food. Methods for reducing the amount of pollutants in food.

Topic 6. Topic 6. Dangerous infectious diseases in the practice of a pharmacist.

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. Viral hepatitis and the possibility of its pathogens entering the body of a doctor. Prevention of hepatitis virus infection and immunoprophylaxis in contact with biological

materials of a patient with hepatitis. Tuberculosis and its prevalence in Ukraine and the world. National program to combat tuberculosis.

Content module 2. BASICS OF BIOETHICS

Topic 7. Introduction to bioethics. Bioethical basis of medical professional activity.

Definition, objectives, and history of bioethics. Problems, principles and bioethical norms. Bioethical basis of medical professional activity. Information problems. The consent for medical treatment. Capacity of the patient. Disclosure. Relations models between doctor and patient. Voluntariness (free choice). Truth telling. Principle of confidentiality (medical secrecy).

Topic 8. Bioethical and legal aspects of research, biosafety of clinical trials. Medico-ethical problems of interaction of medicine with pharmacy.

Biomedical ethics and biosafety of clinical trials of drugs and new medical technologies. World and national regulations governing their implementation. The order of bioethical examination of clinical research materials. The concept of GCP and GPP. Bioethical aspects of preclinical research.

Ethical view on the use of animals in scientific research and educational process. Types and role of alternative technologies (mathematical modeling, computer technologies) in conducting scientific research.

Bioethical problems of interaction of medicine with pharmacy. Medical and legal trends in the use of advertising information in medicine and pharmacy.

Topic 9. Reproductive medicine: ethical, social, jural problems. Bioethical aspects of donorship. Bioethical problems of family planning. Assisted reproduction. Assessment of artificial abortion. Organ transplantation. Bioethical aspects of surgery, transfusiology. Donorship. Usage of stem cells.

Topic 10. Bioethical aspects of living, dying, resuscitation and death. The problem of euthanasia and suicide in the context of bioethics.

The cost of living and human health. Dignity and inviolability of human life from the moment of its fertilization to natural death. Bioethical problems of life, dying, resuscitation and death. Criteria of death. Bioethical aspects of suicide and murder. Euthanasia, definitions, types and their bioethical evaluation. The role of emergency psychological care.

Topic 11. Bioethical, ethical, legal and moral principles of modern genetic engineering technologies, transplantology. Medical aspects of bioethics in psychosomatic disorders.

Fundamentals of bioethical assessment of modern genetic technologies. Bioethical aspects and biosafety in surgery, transplantology, transfusiology. Organ donation, use of stem cells. Bioethical, legal, social problems of medical genetics, genetic engineering and gene therapy, genetic reproductive technologies. Medical and ethical problems of human and animal cloning. Ethical, legal and social aspects and biosafety of prenatal diagnosis and population screening studies. Bioethical problems of neonatology and pediatric practice. Features of pediatric clinical trials.

Biomedical ethics in the prevention and treatment of psychosomatic pathology. Bioethical problems of alcoholism, drug use and smoking, palliative medicine.

Topic 12. Infectious disease ethics. Bioterrorism as a threat to national biosafety.

Infectious disease ethics. HIV-infection and AIDS as ethical and social problems. Bioethical, legal and social issues related to alcohol and drug abuse.

Medical and ethical problems of bioterrorism as the most dangerous type of terrorism. Criteria for potential hazards of biological agents. Categories of biological agents according to the degree of threat to the civilian population.

Basic strategic principles of counteracting biological terrorism and measures to protect the population. Biosafety and treatment of genetically modified organisms.

9. STRUCTURE OF EDUCATIONAL DISCIPLINE

Names of content modules and topics	Classroom		Ind.st. w-k	
	Lec	Prac		
1	2	3	4	5
Content module 1. BASICS OF BIOSAFETY				
Topic 1. Theoretical bases of Safety and Security of Life	8	2	2	4
Topic 2. Human in the system "human – the environment".	7	2	1	4
Topic 3. The role of the environment in the system "human - the environment".	8	2	2	4
Topic 4. Providing the safety of human life.	9	2	2	5
Topic 5. Food safety as a component of safe lifestyle.	7	2	1	4
Topic 6. Dangerous infectious diseases in pharmaceutical practice	6	2	-	4
Total on the content module 1	45	12	8	25
Content module 2. BASICS OF BIOETHICS				
Topic 7. Introduction to bioethics. Bioethical basis of medical professional activity.	8	2	2	4
Topic 8. Bioethical and legal aspects of research, biosafety of clinical trials. Medico-ethical problems of interaction of medicine with pharmacy.	8	2	2	4
Topic 9. Reproductive medicine: ethical, social, jural problems. Bioethical aspects of donorship.	8	2	1	5
Topic 10. Bioethical aspects of living, dying, resuscitation and death. The problem of euthanasia and suicide in the context of bioethics.	7	2	1	4
Topic 11. Bioethical, ethical, legal and moral principles of modern genetic engineering technologies, transplantology. Medical aspects of bioethics in psychosomatic disorders.	8	2	2	4
Topic 12. Infectious disease ethics. Bioterrorism as a threat to national biosafety.	6	2		4
Total on the content module 2	45	12	8	25
TOTAL HOURS	90	24	16	50

10. THEMATIC PLAN OF LECTURES

№	Name of topic	Amount of hours
Full-time		
Content module 1. BASICS OF BIOSAFETY		12
1	Theoretical bases of Safety and Security of Life	2
2	Human in the system "human – the environment".	2
3	The role of the environment in the system "human - the environment".	2
4	Providing the safety of human life.	2
5	Food safety as a component of safe lifestyle.	2
6	Dangerous infectious diseases in the practice of a pharmacist	2
Content module 2. BASICS OF BIOETHICS		12
7	Introduction to bioethics. Bioethical basis of medical professional activity.	2
8	Principles of evidence-based medicine and their bioethical evaluation. Medico-ethical problems of interaction of medicine with pharmacy.	2
9	Bioethical and legal aspects of preclinical, clinical and post-marketing research.	
10	Bioethical, legal and medical and social problems of human life, health and resuscitation. The problem of euthanasia and suicide in the context of bioethics.	2
11	Reproductive medicine: ethical, social, jural problems. Bioethical aspects of surgery, transfusiology, donorship, usage of stem cells.	2
12	Bioethical, medico-social and psychological principles of medical care for infectious patients. Bioterrorism as a threat to national biosafety. P	2
Total		24

11. THEMATIC PLAN OF PRACTICAL (SEMINAR) CLASSES

№	Name of topic	Amount of hours
Full-time		
Content module 1. BASICS OF BIOSAFETY		8
1	Theoretical bases of Safety and Security of Life	2
2	Human in the system "human – the environment". The role of the environment in the system "human - the environment".	2
3	Providing the safety of human life.	2
4	Food safety as a component of safe lifestyle.	2
Content module 2. BASICS OF BIOETHICS		8
5	Bioethical basis of medical professional activity. Medico-ethical problems of interaction of medicine with pharmacy.	2
6	Bioethical and legal aspects of research, biosafety of clinical trials. The problem of euthanasia and suicide in the context of bioethics.	2
7	Bioethical, legal and medical and social problems of human life, health and reproductions.	2
7	Infectious disease ethics. Bioterrorism as a threat to national biosafety.	2
Total		16

12. THEMATIC PLAN OF INDIVIDUAL WORK

№	Name of topic	Amount of hours
1	Emergencies in times of peace and wartime.	2
2	Traditional vs non-traditional health systems.	2
3	The mechanism of the harmful effects of alcohol, smoking and drugs on the human body.	2
4	Consequences of food contamination with pesticides.	2
5	Dangerous infectious diseases in the practice of a health worker.	2
6	Models of the relationship between doctor and patient in modern medicine.	2
7	Bioethical and legal problems of coexistence of "traditional" (scientific) and "non-traditional" medicine.	2
8	Medical and ethical problems of human and animal cloning.	2
9	DNR order in the practice of a health worker.	2
10	Bioethical issues of the different methods of family planning.	2
11	Case studies & MCQs	30
	Total	50

13. LIST OF INDIVIDUAL TASKS (*if provided*)

- Active membership in the student scientific society
- Participation in scientific conferences
- Publication of abstracts / articles in periodicals (journals, abstract books).
- Writing essays, literature review

14. LIST OF THEORETICAL TASKS «FUNDAMENTALS OF BIOETHICS AND BIOSAFETY»

Content module 1. BASICS OF BIOSAFETY

1. The main tasks of the subject Safety of life.
2. Axiom of potential danger. Classification of hazards. Risk concept. Risk management.
3. Principles for determining the acceptable level of negative factors related to human health. Principles and methods of ensuring the safety of human life.
4. Basics of life safety management. System analysis of life safety. Legal security of human life.
5. Man as a bioenergy system. Unity of biological systems of the human body. Factors that ensure human health.
6. Functional systems of the human body in ensuring its safety. Protective functions of the human body. The role of receptors and analysers of the human body in the assessment of factors of the system "man - habitat". Weber-Fechner law.
7. Psychological factors that determine a person's personal safety. Psychophysiological state of the organism. Dependence of the body on external stimuli.
8. Rational modes of work and rest. The external environment and the environment of human life. Classification and characteristics of the human environment.
9. 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.
10. Methods and means of human protection. Features of the state of ecological safety of Ukraine. Comprehensive risk assessment of anthropogenic factors on human safety and health.
11. The external environment and the environment of human life. Classification and characteristics of the human life environment.

12. Classification and characterization of negative factors of the human environment.
13. Methods and means of human protection. Features of the state of ecological safety of Ukraine. Comprehensive risk assessment of the impact of anthropogenic factors on human safety and health.
14. Human health as a biomedical and social category. Spiritual, mental, physical, social aspects of human health. Health and pathology.
15. Valeology and sanology, definitions, essence and subject of their study. Individual health indicators. Factors that ensure the stability of health. Risk factors and risk groups.
16. The concept of lifestyle, its features in modern conditions. Wellness traditional and non-traditional systems, methods of recovery.
17. The 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.
18. The impact of nutrition on human life. Requirements for food quality and safety.
19. Food additives as possible contaminants. Consequences of food contamination by pesticides.
20. Growth stimulants and other chemicals used in agriculture.
21. Genetically modified products and their danger to human health.
22. Radionuclides in food. Nutrition in conditions of radiation pollution.
23. Toxic substances in food: permissible background residues, maximum permissible level of residues in food.
24. Methods for reducing the amount of pollutants in food.

Content module 2. BASICS OF BIOETHICS

1. Definition and objectives of bioethics.
2. Bioethical principles and norms.
3. Bioethical basis of medical professional activity. Information problems.
4. The consent for medical treatment.
5. Capacity of the patient. Disclosure.
6. Relations models between doctor and patient.
7. Voluntariness (free choice). Truth telling.
8. Principle of confidentiality (medical secrecy).
9. Bioethical, social and jural problems of the clinical trials of new drugs.
10. Bioethical aspects of new medical technologies and their introduction into clinical practice.
11. Bioethical, social and jural problems of the medical genetics, genetic engineering.
12. Bioethical, social and jural problems of the regenerative therapy.
13. Bioethical, social and jural problems of the cloning.
14. Reproductive medicine: ethical, social, jural problems.
15. Bioethical aspects of the donorship.
16. Bioethical problems of family planning.
17. Bioethical aspects of assisted reproduction. Assessment of artificial abortion.
18. Bioethical aspects of organ transplantation.
19. Bioethical aspects of surgery, transfusiology.
20. Bioethical aspects of donorship.
21. Bioethical aspects of usage of stem cells.
22. Bioethical aspects of living, dying, resuscitation and death.
23. End of life care.
24. Bioethical, social and jural problems of euthanasia and assisted suicide.
25. Infectious disease ethics. HIV-infection and AIDS as ethical and social problems.
26. Bioethical, legal and social issues related to alcohol and drug abuse.
27. Social ethics of medicine.
28. Social justice and moral obligations.
29. Bioethics and effective health care. Bioethics health policy.
30. Clinical ethics and law.

15. LIST OF PRACTICAL SKILLS AND TASKS

- to identify the negative and dangerous environmental factors on the basis of the data of the sanitary-preventive institution by comparing with the existing norms and standards;
- to analyse the state of health of a certain contingent on the basis of official data by comparison 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 plan 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;
- to identify, analyse, resolve ethical issues or disagreements that emerge in the practice of health care.

16. METHODS AND FORMS OF ASSESSMENT

During the study of the discipline, all types of student activities are subject to control, both current (at each lesson) and final (during control activities).

Module control is an assessment of the student's knowledge of the module material. The semester ends with a final assessment (credit).

The assessment of students' knowledge is carried out during practical classes and includes testing knowledge of theoretical and practical material studied in previous courses, conducted by oral answers, case studies, multiple-choice questions.

Current control of students' knowledge is carried out during practical classes and includes testing of knowledge of theoretical material and control of mastering practical skills, which are provided by methodical development of classes on relevant topics. Testing of students' knowledge is carried out with the help of oral face-to-face interviews, solving test problems of varying severity, solving typical and atypical situational problems, as well as multiple-choice questions.

Intermediate control of students' knowledge is carried out during the final tests during the last lesson of the content module.

Final assessment of students' knowledge is carried out at the last practical lesson after completion of the module in the form of credit. Students show the knowledge of theoretical material (according to the list of questions). In addition, students perform practical work that is attached to the task and solve situational problems, which is also taken into account when assessing their knowledge.

The student receives a grade of "passed" if he has completed all types of work provided by the curriculum of the discipline, attended all classes - lectures, seminars, defined by the thematic plan of the discipline (if there are missed classes - reworked them in time), scored the total points in the study of the discipline not less than 120.

A student receives a grade of "failed" if the student was absent from classes (seminars and lectures) and the number of points for the current control is less than the minimum. A student who, for valid or non-valid reasons, has missed classes is allowed to rework them until a certain deadline.

17. EVALUATION OF THE LEVEL OF STUDENT TRAINING IN THE DISCIPLINE

The maximum number of points (200 points) that a student can score for the discipline is calculated by multiplying the number of points corresponding to the grade "5" - $20 \text{ points} \times 10 \text{ topics} = 200$.

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 "3" - $12 \text{ points} \times 10 \text{ topics} = 120$. Obtaining the minimum number of points (120) per module is a prerequisite for grading "passed".

Traditional scale	Conversion into points
“5”	20
“4”	16
“3”	12
“2”	0

N.B. Assessment of current educational activities, module control and discipline in general is carried out in accordance with the "Instructions for assessing the educational activities of students of Bukovinian State Medical University in the implementation of the European credit transfer system of educational process" (approved by the Academic Council of May 29, 2014, protocol 9).

19 RECOMMENDED LITERATURE

Basic

1. The Cambridge Textbook of Bioethics, by Peter Singer (Editor), A.M. Viens. Cambridge University Press, 2008
2. Bioethics. An Introduction, by Marianne Talbot. Cambridge University Press, 2012
3. Introduction to Bioethics by John A. Bryant; Linda Baggott la Velle. Wiley-Blackwell, 2018
4. The Basics of Bioethics by Robert M. Veatch; Laura K. Guidry-Grimes. Taylor and Francis; 2019

19.2 Information resources

1. <http://moodle.bsmu.edu.ua/course/enrol.php?id=1912>
2. <https://www.edx.org/course/introduction-to-bioethics>
3. <https://online-learning.harvard.edu/course/bioethics-law-medicine-and-ethics-reproductive-technologies-and-genetics?delta=1>
4. <https://www.conted.ox.ac.uk/courses/bioethics-for-beginners-online>

20. COMPILERS OF THE STUDENT HANDBOOK (SYLLABUS)

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