

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

BLACK SEA NATIONAL UNIVERSITY  
named after PETER THE GREAT

Medical Institute

Department of Hygiene, Social Medicine and Public Health



Director  
NM Ishchenko  
2019

## CURRICULUM WORK PROGRAM

### Hygiene and ecology

Area of knowledge 22 "Health care"  
Specialty 222 "Medicine"

Developer  
Head of the Department of Developer  
Guarantor of the educational program  
Director of the institute  
Head of NMV

Zyuzin VO  
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## 1. Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Hygiene and ecology	
Branch of knowledge	22 "Health care"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Curriculum	VI	
Semester	12th	
Academic year	2021–2022	
Course structure:	Full-time	Correspondence form
- lectures	-	
- practical training	-	
- hours of independent work of students	- 40 - 50	
Percentage of classroom load	44%	
Language of instruction		
Form of intermediate control (if any)		
Form of final control	Credit - 12th semester	

## 2. Purpose, tasks and planned learning outcomes

**The purpose of** studying the discipline "Hygiene and Ecology" is to acquire the necessary knowledge, skills and competencies to use the basic principles of hygienic and environmental research, which aims to save and preserve human health and life, to study the impact on the human body of social, natural and artificial environmental factors.

**Learning objectives:** acquisition by students of competencies, knowledge, skills and abilities for the implementation of specialized activities in the specialty:

- definition of "Hygiene and Ecology" as a scientific and practical medicine;
- be able to conduct a sanitary examination of living conditions for human health;
- to use physical methods in sanitary-hygienic and ecological researches of properties of environment;
- to use chemical methods in sanitary-hygienic and ecological researches;
- to use biological methods in sanitary-hygienic and ecological researches;
- be able to conduct epidemiological studies to study changes in public health over the influence of endogenous and exogenous social and natural factors;
- use the sanitary-statistical method to study the health of the population;
- use the methods of hygienic experiment to study the impact of various environmental factors on the human body;
- be able to assess the effectiveness of sanitary and hygienic measures to compare the parameters of environmental factors before and after ;
- determine the nature of environmental processes that occur in the environment and assess their effects on human life;

- be able to study environmental information to optimize the processes that exist in the human population.

**Prerequisites for studying the discipline (interdisciplinary links)**

"Hygiene and ecology" as a discipline:

a) is based on students' understanding of the basic principles of knowledge in social medicine and public health, training of reserve officers in the field of knowledge "Health", epidemiological principles of evidence-based medicine, microbiology, biochemistry, life safety, surgery, internal medicine and integrates with these disciplines;

b) creates a theoretical basis for students to master sanitary, environmental and preventive measures, patterns of sanitary and environmental research, which involves the integration of teaching with basic medical and clinical disciplines, the ability to use this knowledge in further learning and in practical activities of the doctor.

c) provides the basis of theoretical knowledge and practical skills in the organization of sanitary and hygienic and environmental measures, including the organization of hygienic and environmental research.

**Expectation of learning outcomes**

As a result of studying the discipline, students have:

- ability to solve typical and ecological specialized problems and practical problems in professional activity in the field of health care;
- the ability of the individual to organize an integrated humanitarian educational space, the formation of a single image of culture or a holistic picture of the world;
- ability to apply knowledge in practical situations;
- ability to exercise self-regulation, lead a healthy lifestyle;
- ability to adapt and act in new situations;
- ability to choose communication strategy;
- ability to work in a team, interpersonal skills;
- ability to abstract thinking, analysis and synthesis;
- ability to learn and be modernly trained;
- certainty and persistence in terms of tasks and responsibilities;
- ability to conduct sanitary and hygienic and environmental research;
- ability to determine the tactics of sanitary and hygienic and environmental research;
- skills of sanitary and ecological measures;
- skills of implementation of sanitary-hygienic and ecological measures.

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

○ **know:**

- professional and legal standards in everyday medical practice;
- signs of health and its changes, illness or disability (assessment, diagnosis);
- problems of patients with various diseases and conditions;
- professional skills, hygiene products, interventions and actions in assessing the ecological condition;
- assessment of hygienic and ecological condition of the environment;
- method of sanitary inspection;
- physical, chemical and biological research methods in sanitary and hygienic research;
- epidemiological method in conducting sanitary and hygienic and environmental studies;
- sanitary and statistical methods for studying the health of the population;
- method of conducting a hygienic experiment;
- to evaluate the effectiveness of sanitary and hygienic measures;

○ **be able:**

- to carry out a hygienic assessment of air;
- to carry out physical and chemical analysis of water;
- to carry out purification and disinfection of water;
- to assess the adequacy of nutrition;
- determine the energy value of the daily norm;
- to carry out a hygienic assessment of public and industrial premises;
- give a hygienic classification of industrial hazards;
- to carry out the hygienic characteristic of physical production factors;
- to carry out hygienic characteristics of chemical factors of the production environment;
- to carry out a hygienic assessment of lighting of premises;
- to carry out a hygienic assessment of ventilation of premises;
- to carry out a hygienic assessment of working conditions;
- to carry out a hygienic assessment of planning of settlements;

- *have competencies*

- on the application of knowledge of hygiene and ecology to characterize the laws of influence on the human body of social, natural and artificial environmental factors, as well as the internal environment to identify the natural positive and negative impact on the body;
- about the main perspective directions of development of hygiene and ecology.

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

- *general (LC) - LC1, LC10 OPP:*

**ZK1.** Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.

**3K10.** The desire to preserve the environment;

- *professional (FC) - FC10, FC14, FC15, FC17, FC20 OPP:*

**FC10.** Ability to carry out medical and evacuation measures.

**FC14.** Ability to carry out sanitary and hygienic and preventive measures.

**FC15.** Ability to plan and conduct preventive and anti-epidemic measures against infectious diseases.

**FC17.** Ability to conduct a performance examination.

**FC20.** 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** :

**PRN4.** 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.

**PRN10.** 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. Bear responsibility regarding the implementation of measures conservation of the environment in the framework of its competence.

**PRN29.** Plan measures to prevent the spread of infectious diseases (according to list 2) in a health care facility, its unit based on the results of epidemiological surveys of infectious diseases, epidemiological analysis, using existing preventive and anti-epidemic methods.

**PRN31.** Identify in terms of establishment health care, his unit using statistical and laboratory methods of group risk, areas of risk, while the risk factors of risk and carry out epidemiological analysis of infectious morbidity.

**PRN37.** In the conditions of a health care institution, its subdivision according to standard methods:

- identify negative environmental factors on the basis of sanitary data preventive institution by comparing with existing norms and standards;
- to analyze 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 particular 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.

**PRN38.** 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.

**PRN39.** Conduct an assessment impact of socio-economic and biological determinants on the health of the individual, family, population on the territory of the service by standard methods and on the basis of data of epidemiological, medical and statistical research.

### **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. Hygiene.**

##### **Topic 1. Hygienic assessment of air**

Hygienic characteristics, determination of air temperature. Hygienic characteristics and determination of humidity. Determination of humidity. Hygienic characteristics and determination of air movement. Determination of air velocity. Hygienic characteristics and method of determining atmospheric pressure. Determination of atmospheric pressure. Hygienic value and determination of carbon dioxide in the air. Determination of carbon dioxide in the air. Hygienic characteristics and determination of carbon monoxide. Hygienic characteristics and determination of microbial air pollution. Hygienic value and determination of mechanical air pollution. Determination of mechanical air pollution.

##### **Topic 2. Water hygiene and water supply**

Sanitary and hygienic requirements for drinking water. Definition of physical (organoleptic) properties of water. Chemical analysis of water. Bacteriological analysis of water. Water purification and disinfection. Water disinfection. Hygienic value of water. Epidemiological significance of water. Water quality. Hygienic standards of water supply.

##### **Topic 3. Food hygiene**

Evaluation of food efficiency. Determining the energy value of daily soldering. Hygienic requirements for food. Rational nutrition. Caloric content of food and energy expenditure of the body. Quality food composition. Nutrition-related diseases.

#### **Topic 4. Soil hygiene**

The lithosphere as an integral part of the biosphere. Soil structure, epidemiological value of soil. Self-cleaning of the soil. Endemic diseases associated with the chemical composition of the soil. Chemical soil contamination. Landscape factor.

#### **Topic 5. Hygiene of planning of settlements**

Hygienic value of settlement planning. District planning. Hygienic value of natural factors. The city is a factor. Choosing a place for the settlement. Zoning of the city. Development of residential neighborhoods. Landscaping of cities.

#### **Topic 6. Hygienic bases of improvement of public and industrial premises**

Natural and artificial lighting. Solar radiation and its hygienic value. Lighting indicators. Natural lighting of premises. Artificial lighting of premises. Ventilation of premises (indicators, system, natural ventilation, artificial ventilation, air conditioning). Microclimate and space heating (hygienic values, microclimate, types and influence of microclimate, space heating).

#### **Topic 7. Occupational health and industrial toxicology**

Classification of industrial hazards. Industrial microclimate. Production noise and vibration. Electromagnetic fields. Production dust. Chemical factors and prevention of their action. Industrial toxicants. Occupational poisonings and occupational diseases and their prevention.

### **Block 2. Ecology**

#### **Topic 8. Modern phenomenon of ecology. Purpose and objectives. The structure of modern ecology**

Definition of ecology as a science and academic discipline. The purpose and objectives of ecology. Features of interaction of society and nature in the conditions of a modern ecological situation. The structure of modern ecology. The reasons for the global deterioration of the environmental situation. Environmental protection and human health. Problems of ecology in modern conditions.

#### **Topic 9. Ecology and human health**

Basic concepts and laws of human ecology. Environmental crisis. Options biological effects of environmental factors. Global pollutants of environmental objects. Atmospheric air and health. Drinking water and health. Ecology of living quarters. Soil and human health. Ecology of food. Climate and health. Endoecology. International environmental and environmental organizations.

#### **Topic 10. Ecology of residential and public premises**

The main sources of indoor air pollution. Substances that enter the room with polluted air. Products of destruction of polymeric materials. Anthrotoxins. Products of household activity. Problems of husking of indoor air. Indoor radioactivity. Electromagnetic fields. Electromagnetic static fields. Television and human health. Computers and human health. Noise in the living environment. Infrasounds and ultrasounds and their effects on humans. Vibration in the living space.

#### **Topic 11. Ecology of soil and food**

Geochemical ecology of endemic diseases. Chemical soil contamination. Biological soil pollution. Physical soil contamination. Ecological characteristics of modern food. Nutritional supplements. Nitrate contamination of food. Refining products. Food safety recommendations.

#### **Topic 12. Endoecology**

Endoecology - the science of ecology of the internal environment of the organism. Ecological pathology (alopecia, "potato disease", "yellow" children, premature infant mortality, chronic fatigue syndrome, "Minamota" disease, "itai-itai" disease). Ecotoxicology. Medical and genetic counseling. Environmental screening. Hygienic regulation of harmful substances.

**Topic 13. Climate and human health**

Natural climatic factors. Physical fields and their impact on the human body. Solar radiation as a climatic factor. The effect of sunlight on the human body. Features of the influence of cold on the human body. Changes in atmospheric pressure and human health.

**The structure of the discipline**

<b>Topic</b>	<b>Lectures</b>	<b>Practical training</b>	<b>CPC</b>
1	2	3	4
<b>Block 1. Hygiene</b>			
1. Hygienic assessment of air	-	2	5
2. Water hygiene and water supply	-	2	5
3. Food hygiene	-	2	5
4. Soil hygiene	-	2	5
5. Hygiene of settlement planning	-	2	5
6. Hygienic bases of improvement of public and industrial premises	-	4	5
7. Occupational health and industrial toxicology	-	4	4
8. Final test № 1	-	2	-
<b>Block 2. Ecology</b>			
9. Modern ideas about ecology. Purpose and objectives. The structure of modern ecology	-	2	2
10. Ecology and human health	-	4	2
11. Ecology of residential and public premises	-	4	2
12. Soil and food ecology	-	4	2
13. Endoecology	-	2	4
14. Climate and human health	-	2	4
15. Final control work № 2	-	2	-
<b>Total hours - 90, credits - 3.0</b>	-	<b>40</b>	<b>50</b>

## 4. The content of the discipline

### 4.1. Lecture plan

Lectures are not provided in the curriculum.

### 4.2. Plan of practical classes

The plan of practical classes coincides with that in the structure of the discipline (see above).

### 4.3. Tasks for independent work

<b>№ n \ n</b>	<b>Topic</b>	<b>Number of hours</b>
<b>Block 1. Hygiene</b>		
1.	Preparation for practical classes (theoretical training, development of practical skills)	10
2.	Online courses and online testing	5
3.	Independent elaboration of topics that are not included in the classroom plan	5
4.	Individual work	3
5.	Preparation for the final test	2
<b>Together</b>		<b>25</b>
<b>Block 2. Ecology</b>		
1.	Preparation for practical classes (theoretical training, development of practical skills)	10
2.	Online courses and online testing	5
3.	Independent elaboration of topics that are not included in the classroom plan	5
4.	Individual work	3
5.	Preparation for the final test	2
<b>Together</b>		<b>25</b>
<b>Total for blocks 1 and 2</b>		<b>50</b>

### Individual tasks for performing VTS

Selection and review of scientific literature on the subject of the program in hygiene and ecology 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.

Scientific research on the subject 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 points of a particular practical lesson, ie the maximum score is 6 points.

### 4.4. Ensuring the educational process

1. Multimedia projectors, computers, screens for multimedia presentations, lecture presentations.
2. Demonstration screens, laptops, files in Power Point and Word with tasks "Step-2" for practical and final classes.



3. Exam tickets.

## **5. Final control**

### **List of questions of final control (credit)**

1. The subject of hygiene. Methods of hygienic research.
2. Historical essays on the development and formation of hygiene.
3. Hygienic characteristics and determination of air temperature.
4. Hygienic characteristics and relative humidity.
5. Hygienic characteristics and determination of air movement.
6. Hygienic characteristics and methods for determining atmospheric pressure.
7. Hygienic value and determination of carbon dioxide in the air.
8. Hygienic characteristics and determination of carbon monoxide.
9. Hygienic characteristics and determination of microbial air pollution.
10. Hygienic value and determination of mechanical air pollution.
11. Sanitary and hygienic requirements for drinking water.
12. Determination of physical (organoleptic) properties of water.
13. Chemical analysis of water.
14. Bacteriological analysis of water.
15. Water purification and disinfection.
16. Hygienic value of water. Water quality.
17. Epidemiological significance of water.
18. Hygienic standards of water supply.
19. Assessment of food adequacy.
20. Determining the energy value of daily soldering.
21. Determination of daily energy consumption.
22. Hygienic requirements for food.
23. Rational nutrition.
24. Caloric content of food and energy expenditure of the body.
25. Quality food composition.

26. Nutrition-related diseases.
27. The lithosphere as an integral part of the biosphere.
28. Soil structure.
29. Epidemiological significance of soil.
30. Self-cleaning of the soil.
31. Endemic diseases associated with the chemical composition of the soil.
32. Chemical soil contamination.
33. Landscape factor.
34. Hygienic value of settlement planning.
35. District planning.
36. Hygienic value of natural factors.
37. City-forming factors.
38. Choosing a place for the settlement.
39. Zoning of the city.
40. Development of residential neighborhoods.
41. Landscaping of the city.
42. Natural and artificial lighting.
43. Solar radiation and its hygienic value.
44. Lighting indicators.
45. Natural lighting of premises.
46. Artificial lighting of premises.
47. Ventilation of premises.
48. Microclimate and space heating.
49. Classification of industrial hazards.
50. Industrial microclimate.
51. Production noise and vibration.
52. Electromagnetic fields.
53. Production dust.

54. Chemical factors and prevention of their action.
55. Industrial toxicology.
56. Occupational poisonings and occupational diseases and their prevention.
57. The purpose and objectives of ecology.
58. Features of interaction of society and nature in the conditions of a modern ecological situation.
59. The structure of modern ecology.
60. The reasons for the global deterioration of the environmental situation.
61. Environmental protection and human health.
62. Problems of ecology in modern conditions.
63. Basic concepts and laws of human ecology.
64. Ecological crisis. Options for environmental impact of environmental factors.
65. Global pollutants of environmental objects.
66. Atmospheric air and health.
67. Drinking water and health.
68. Ecology of living quarters.
69. Soil and human health.
70. Ecology of food.
71. Climate and health
72. .Endoecology.
73. International environmental and environmental organizations.
74. The main sources of indoor air pollution.
75. Substances that enter a room with polluted air.
76. Products of destruction of polymeric materials.
77. Anthrotoxins.
78. Products of household activity.
79. Problems of husking the natural environment of the premises.
80. Indoor radioactivity.
81. Electromagnetic fields.

82. Electric static fields.
83. Television and human health.
84. Computer and human health.
85. Noise in the living environment.
86. Infrasound and ultrasound and their impact on humans.
87. Vibration in living conditions.
88. Geochemical ecology of endemic diseases.
89. Chemical soil contamination.
90. Biological soil pollution.
91. Physical soil contamination.
92. Ecological characteristics of modern food.
93. Nutritional supplements.
94. Nitrate contamination of food.
95. Refining products.
96. Food safety recommendations.
97. Endoecology - the science of ecology of the internal environment of the organism.
98. Ecological pathology.
99. Ecotoxicology.
100. Medical and genetic counseling.
101. Environmental screening.
102. Hygienic recommendation of harmful substances.
103. Natural climatic factors.
104. Physical fields and their impact on the human body.
105. Solar radiation as a climate-forming factor.
106. The effect of sunlight on the human body.
107. Features of the influence of cold on the human body.
108. Changes in atmospheric pressure and human health.

**"0" version of the test ticket**  
Black Sea National University  
named after Peter the Great  
Educational qualification level - master  
Field of knowledge: 22 "Health care"  
Specialty 222 "Medicine"  
Academic discipline  
**"Hygiene and ecology"**

**Option № 0**

1. The subject of hygiene. Methods of hygienic research. (Maximum number of points - 20).
2. Sanitary and hygienic requirements for drinking water. (Maximum number of points - 20).
3. The structure of modern ecology. (Maximum number of points - 20).
4. Environmental screening. (Maximum number of points - 20).

*Approved at a meeting of the Department of Hygiene, Social Medicine and Public Health. Protocol № \_\_\_\_ dated \_\_\_\_\_ 2020*

Head of Department    Professor Zyuzin VO

Examiner Professor Zyuzin VO

**Example of tests and situational tasks**

**1. Material environmental factors that affect human health:**

- a) physical;
- b) chemical;
- c) biological;
- d) mental.

**2. Hygienic methods that improve human health, physical development and efficiency:**

- a) optimistic conditions and mode of work and rest;
- b) nutrition;
- c) optimization of motor activity;
- d) hardening.

**3. Components of the biosphere:**

- a) atmosphere;
- b) the hydrosphere;
- c) the lithosphere;
- d) weather.

**4. Organoleptic features of water:**

- a) smell;
- b) taste;
- c) color;
- d) transparency.

**5. Hygienic properties of the soil:**

- a) porosity;
- b) air permeability;
- c) water permeability;
- d) moisture heat;
- e) heat capacity;
- f) thermal regime.

**Problem № 1**

Basic hygienic requirements for drinking water and consumption norms Normal coli-titer and coli-index.

**Problem № 2**

Make a daily diet for manual workers. Basic hygienic dietary requirements.

**6. Evaluation criteria and tools for diagnosing 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 mastery of practical skills, as well as the results of independent work of students. Supervised by teachers of the department in accordance with 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 medical, biological and clinical research, monitoring the acquisition of practical skills.

**Intermediate control.** Checking the possibility of using students for medical and social 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 on the topic / section / block by passing practical skills, solving situational problems and testing.

**The final control work (RCC)** is carried out upon completion of the study of all topics of the block at the last, control, lesson of the block. Evaluation of RCC is carried out in accordance with the criteria and scores of a particular practical lesson, ie the maximum score is 6 points.

In order to assess the results of training in "Hygiene and Ecology" is also a **final control in the form of a test**. Only students who have attended or completed all the curricula provided by the curriculum, completed full independent work, completed both PKRs in the discipline and scored at least **70 points per semester** in the course of study are admitted to the test . The maximum number of points for the current educational activity is **120**.

**Distribution of points received by students**

A positive assessment in each practical session can be from 3.5 to 6 points. A score below 3.5 points means "unsatisfactory", the lesson is not credited and is subject to practice in the prescribed manner.

On the test, a student can get a maximum of **80 points**. The test is considered passed if the student scored **at least 50 points**.

**Assessment of student performance**

Type of activity (task)	Maximum number of points
Practical classes from the 1st to the 20th	6 points in each of the practical classes
<b>Together for practical classes</b>	<b>120</b>
<b>Test</b>	<b>80</b>
<b>Together for practical classes and credit</b>	<b>200</b>

### Criteria for assessing knowledge

**With a score of 5.1-6 points per topic and 71-80 points on the test (A on the ECTS scale and 5 on the national scale)** the 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.

**A score of 4.1-5 points per topic and 61-70 points on 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 provisions, the ability to apply them in practice, but some fundamental inaccuracies are allowed .

**With a score of 3.5-4 points per topic and 50-60 points on 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

### 7.1. Basic

1. Bilyavsky GO, Padun MM, Furdey RS Fundamentals of general ecology. K .: Lybid, 1993. - 309 p.
2. Bolshakov AM, Novikova NM General hygiene. - M .: Медицина, 1985. - 320 с.
3. Occupational hygiene: Textbook / ed. Professor A.M. Shevchenko, - K .: Higher school, 1993. - 583 p.
4. Hygiene. Textbook for universities / Ed. G.N. Rumyantseva. - M., 2001. - 607 p.
5. General hygiene with the basics of ecology / Ed. V.A. Кондратюка. - Ternopil, 2003. - 591 p.
6. Laptev AP Hygiene. - M., 1990. - 326 p.
7. Nikberg II, Sergeta IV, Tsybalyuk LI Hygiene with the basics of ecology: Textbook. - K .: Здоров'я, 2001. - 504 с.

### 7.2. Additional

1. Bakach T. Environmental protection: Per. with weng. - M .: Медицина, 1980. - 216 с.

2. Bolshakov AM A guide to laboratory classes on general hygiene. - М .: Медицина, 1987. - 146 с.
3. Gabovich RP, Poznansky SS, Shahbazyan GH Hygiene, 3rd ed. перераб.и доп. - К .: Вища шк., 1983. - 320 с.
4. Food hygiene with the basics of nutrition: Textbook / ed. VI Сурпан. - К .: Здоров'я, 1999. - 568 с.
5. Datsenko II, Gabovich RD Preventive medicine. General hygiene with the basics of ecology: A textbook. - К .: Здоров'я, 1999. - 694 с.
6. General occupational hygiene / ed. prof. G.H. Shahbazyan. - К .: Вища шк., 1990. - 456 с.
7. General hygiene: propaedeutics of hygiene: Textbook / ed. E.G. Potter. - К .: Вища шк., 1995, - 552 с.
8. Kasparov AA Occupational hygiene: Textbook .: М .: Medicine, 1988. - 352 p.
9. Communal hygiene / Ed. K.N. Акулова, К.А. Bushtueva. М .: Meditsina, 1986. - 608 s.
10. General hygiene (propaedeutics of hygiene): Textbook / Ed. E.N. Goncharuka, - К .: Higher school, 1991. - 384 p.