
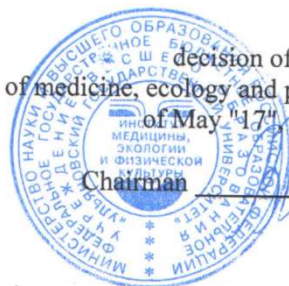


Ministry of science and higher education of the Russian Federation Ulyanovskstateuniversity	Form	
F-worker program of discipline		

**APPROVED BY**  
 decision of the Academic council of  
 institute of medicine, ecology and physical education ULSU  
 of May "17", 2023, protocol No. 9/250  
 Chairman (V.I. Midlenko)  
 "17" 05 2023



### WORKING DISCIPLINES PROGRAM

Discipline	Hygiene
Faculty	Medical faculty of T.Z. Biktimirov
Department	Public health and health care
Course	3, 4

Direction (specialty) 31.05.01 General medicine

*code of the direction (specialty), full name*

Orientation (profile/specialization) not provided

*full name*

Internal form of education

Date of Introduction in educational process of ULSU «01 "september 2023

The program is updated at a faculty meeting: protocol No. 10 from 22.05. 2024.



The program is updated at a faculty meeting: protocol No. \_\_\_\_\_ from \_\_\_\_\_ 20 \_\_\_\_\_.


The program is updated at a faculty meeting: protocol No. \_\_\_\_\_ from \_\_\_\_\_ 20 \_\_\_\_\_.

The program is updated at a faculty meeting: protocol No. \_\_\_\_\_ from \_\_\_\_\_ 20 \_\_\_\_\_.

Information about developers:

NAME	Department	Position, academic degree, rank
Alabina E.V.	Public health and health care	Associate professor, PhDs in Medicine.

Agreed	Agreed
Head of the department, developing discipline - head of the department of public health and health care	Head of graduating department hospital therapy
 / V.I. Gorbunov. / <i>Signature</i> Full name <u>"17" 05 2023</u>	 / Vize-Hripunova M. A. / <i>Signature</i> Full name <u>"17" 05 2023</u>

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## 1. Goals and tasks of studying the course

**Goals of studying the course:** acquiring the knowledge of the issues related to the regularities of human-environment interaction, environmental protection and ecology; learning the generally accepted methodology of studying the environment; contributing to the formation of the proactive outlook of a future doctor.

**Tasks of studying the course:** taking the measures aimed at maintaining the health of adult population and the youngsters, implementation of preventive measures against diseases among adult population and the youngsters, forming the motivation to maintaining and promotion of health among adult population, the youngsters and their relatives, awareness-building aimed at promoting the healthy lifestyle among adult population, the youngsters and their relatives; developing the positive medical behaviour among adult population, the youngsters and their relatives aimed at maintaining and promotion of health and increasing motivation to the elimination of bad habits having a negative influence on the health of the younger generation; organization of events in the sphere of labour protection and safety, prevention of professional diseases, control and maintenance of environmental safety; analysis of research literature and official statistical reports, preparing reports on relevant research problems.

## 2. Position of the course in the structure of the Academic programme of higher professional education


In accordance with the Federal State Education Standards of Higher Professional Education the academic course "Hygiene" is classified as a basic discipline of the academic major 31.05.01 "General medicine" (higher professional education), which is studied in the VI and the VII semesters.

Development of discipline "Hygiene" is based on knowledge, skills formed by the previous disciplines: «Physical education and sports», «Immunology», «Medical rehabilitation», «Nanotechnology in medicine», «Elective disciplines in physical culture and sports».

Studying discipline "Hygiene" allows students to gain necessary knowledge, skills at development of the subsequent disciplines: «Faculty therapy», «Practice on obtaining primary professional skills and skills of a doctor of an inpatient institution», «Occupational diseases», «Practice on obtaining primary professional skills and skills of an outpatient clinic doctor», «Preparation for passing and passing the state exam», «Polyclinic therapy».

## 3. Requirements to the learning outcomes

Code and name of the implemented competency	List of the planned learning outcomes of the academic course (module) related to the indicators of acquiring the competency
UC-7 - is able to maintain the proper level of physical fitness to ensure full-fledged social and professional activities	IA-1uc7 Know the types of physical exercises IA-2uc7 Be able to apply in practice a variety of means of physical culture, sports and tourism to preserve and strengthen health and psychophysical training IA-3uc7 Possess the means and methods of strengthening individual health to ensure full-fledged social and professional activities

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<b>PC-5-ability to apply the basic principles of organization and management in medical organizations and their structural divisions and to maintain medical records</b>	<b>IA-1pk5</b> Know the basics of organizing and managing the activities of medical organizations and their structural divisions <b>IA-2pk5</b> Be able to fill out medical documentation, including in electronic form, apply the basic principles of organization and management of medical organizations and their structural divisions <b>IA-3pk5</b> Master the methods of calculating and analyzing the performance indicators of medical organizations, the skills of ensuring internal quality control and safety of medical activities
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#### 4. GENERAL LABOUR INPUT OF DISCIPLINE

##### 4.1. Discipline volume in test units (in total):6


##### 4.2. Discipline volume by types of study (in hours)

Type of study	Number of hours		
	Only according to the plan	Including on semester	
		6	7
Contact work of students with the teacher according to unitary enterprise	87/87*	51/51*	36/36*
Classroom occupations:	87/87*	51/51*	36/36*
Lectures	25/25*	17/17*	8/8*
practical and seminar training	62/62*	34/34*	28/28*
laboratory works, workshops			
Independent work	93/93	39/39	54/54
Form of the current control of knowledge and control independent work: testing, Contr. work, colloquium, report, etc. (not less than 2 types)	Poll, presentation of reports, case studies	Poll, presentation of reports, case studies	Poll, presentation of reports, case studies
Term report			
Types of intermediate certification (examination, offset)	a pass-fail test, examination 36/36	a pass-fail test	examination 36/36
In total hours on discipline	216/216	90/90	126/126


\* If it is necessary to use partially/exclusively distance learning technologies in the educational process, the number of hours of work of teachers with students for conducting classes in a remote format using e-learning is indicated in the table using a slash.

**4.3. Content of discipline (module.) Distribution of hours on subjects and types of study:**  
Internal form of education.


Name of sections and subjects	Intotal	Types of educational				Form of the current control of knowledge
		Classroom lessons			Independent work	
		Lectures	Practical training, seminars	Classes in an interactive form		
<b>Section 1. Hygiene as science. Hygiene methodology.</b>						
Topic 1. History of hygiene. Subject, contents and problems of hygiene. Methods of hygienic researches.	5	2			3	presentation of reports
<b>Section 2. Hygiene of the air environment.</b>						
Topic 2. Physical properties of air and their value for an organism.	4	2	2	2		oral poll, solution of situational tasks
Topic 3. Chemical composition of air and its hygienic value. Hygienic characteristic of the main sources of pollution of atmospheric air. Hygienic characteristic of bacterial pollution of the air environment. Solar radiation.	4	2	2			oral poll
Topic 4. Heating, ventilation and lighting.	4	2	2			oral poll
Topic 5. Climate and health. Hygienic problems of adaptation and acclimatization.	6				6	presentation of reports
Topic 6. Modern environmental problems. Ecology and human health.	6				6	presentation of reports,
<b>Section 3. Hygiene of water and water supply.</b>						
Topic 7. Physiological, hygienic and epidemiological value of water. Water supply sources. Water supply systems.	4	2	2			oral poll
Topic 8. Hygienic requirements to quality of drinking water. Hygienic requirements to water quality of not centralized water supply. Hygienic bases of water supply.	4	2	2	1		oral poll, solution of situational tasks
Topic 9. Hygienic characteristic of methods of improvement of water quality. Water purification. Water disinfecting.	2		2			oral poll

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<b>Section 4. Hygiene of nutrition.</b>						
Topic 10. Food and health of the population. The value of rational nutrition. Methods of definition of energy costs of an organism and principles of rational nutrition.	4	2	2	1		oral poll
Topic 11. Main requirements to qualitative structure of a diet. Medical control of adequacy of food. Composition and assessment of the menu production record.	4	2	2	1		oral poll
Topic 12. Biological role of vitamins, mineral substances. Sources, norms.	2		2			oral poll
Topic 13. Medical nutrition monitoring of feeding in the medical organizations. Hygienic assessment of dietetic department of hospital.	2		2	1		oral poll
Topic 14. Nutrition value and sanitary examination of food. Nutrition value and sanitary and hygienic assessment of flour, bread.	2		2			oral poll
Topic 15. Nutrition value and sanitary and hygienic assessment of milk, meat.	2		2			oral poll
Topic 16. Conservation. Sanitary examination of canned food, concentrates.	2		2			oral poll
Topic 17. Alimentary diseases and food poisonings.	5	1	4	1		oral poll, solution of situational tasks
Topic 18. Nutrient additives: classification, characteristics, requirements.	2				2	presentation of reports
Topic 19. Features of nutrition of pregnant women and feeding.	4				4	presentation of reports
Topic 20. Features of nutrition of young children.	6				6	presentation of reports
Topic 21. Preschool and school feeding.	6				6	presentation of reports
Topic 22. Features of nutrition of elderly people.	6				6	presentation of reports
Topic 23. Concluding lesson. pass-fail test	2		2			oral poll

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<b>Total:</b>	<b>90</b>	<b>17</b>	<b>34</b>	<b>6</b>	<b>39</b>	
<b>Section 5. Hygiene of the soil.</b>						
Topic 24. Hygiene value of soil.	4	2	2	1		oralpoll
<b>Section 6. Hygiene of residential and public buildings.</b>						
Topic 25. Urbanization and its hygienicvalue.	4	2	2			oralpoll
<b>Section 7. Hygiene of hospitals.</b>						
Topic 26. Hygienic characteristic of hospitals. Hygienic requirements to placement, planningof hospitals.	6	2	4	2		oralpoll
Topic 27. Prevention of an intrahospital infection.	2		2			oralpoll
Topic 28. Features of planning of specialized departments of hospitals.	8				8	presentat ionofrep orts
Topic 29. Features professional activity of doctors of various specialties.	8				8	presentat ionofrep orts
<b>Section 8. Hygiene of radiation.</b>						
Topic 30. Hygiene of radiation.Impact of ionizing radiation. Methods of protection against radioactivity.	2		2			oralpoll
Topic 31. Radiological departments of hospital. The organization of radiation safety during the work with the opened and closed sources.	8				8	presentat ionofrep orts
<b>Section 9. Occupational hygiene.</b>						
Topic 32. Occupational hygiene. Harmful industrial factors. Occupational diseases.	4		4	1		oralpoll
Topic 33. Hygienic assessment of toxicity of industrial poisons. Hygienicassessmentofelectromagneticra diations.	8				8	presentat ionofrep orts
Topic 34. Occupational hygienein agriculture.	8				8	presentat ionofrep orts
Topic 35. Occupational injuries. Reasons, prevention.	7				7	presentat ionofrep orts
<b>Section 10. Hygiene of children and teenagers.</b>						
Topic 36. Main problems of hygiene of children and teenagers. State of health of children and teenagers.	8	2	6	2		oral poll, solution of

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Assessment of physical development of children and teenagers.						situational tasks
Topic 37. Hygiene of studies at school. Hygienic requirements to the organization of educational process. Hygienic requirements to placement, planning and the equipment of schools. Hygienic requirements to placement, planning, the equipment of kindergartens.	6		6	1		oral poll
<b>Section 11. Hygienic bases of a healthy lifestyle. Modern problems of personal hygiene.</b>						
Topic 38. Healthy lifestyle and questions of personal hygiene. Hygienic requirements to clothes and footwear. Hygienic assessment of natural and artificial materials. Hygienic requirements to skin, hair and oral cavity care products.	7				7	presentation of reports
<b>Total:</b>	<b>90</b>	<b>8</b>	<b>28</b>	<b>8</b>	<b>54</b>	
<b>Examination:</b>	<b>36</b>					
<b>In total hours on discipline:</b>	<b>216</b>	<b>25</b>	<b>62</b>	<b>14</b>	<b>93</b>	

## 5. CONTENT OF THE COURSE

### Section 1. Hygiene as a science. Hygiene methodology.

#### Topic 1. History of hygiene. Subject, contents and problems of hygiene. Methods of hygienic researches.

**Content of the topic.** History of formation and development of hygiene. Subject, contents and value of hygiene. Hygiene as fundamentals of preventive medicine, communication of hygiene with other sciences. The place of hygiene in the system of medical education. Hygiene methods.

### Section 2. Hygiene of the air environment.

#### Topic 2. Physical properties of air and their value for an organism.

**Content of the topic.** Value of the air environment for the person. Categories of the air environment. Structure of earth atmosphere. Physical factors of the air environment. Hygienic value of air temperature. Influence on an organism of high and low temperatures. Influence of atmospheric pressure upon an organism. High-rise, mountain and caisson disease. Hygienic value of air humidity. Types of humidity. Speed of the movement of air. Electric condition of the air environment.


#### Topic 3. Chemical composition of air and its hygienic value. Hygienic characteristic of the main sources of pollution of atmospheric air. Hygienic characteristic of bacterial pollution of the air environment. Solar radiation.

**Content of the topic.** Gas composition of atmospheric air. Hygienic value of the air components. Carbon dioxide as indicator of air pollution of residential and public buildings. An air cube, calculation of an air cube. Types of pollution of atmospheric air. Impact of chemical pollution of the air environment on health of the population. Prevention of action of the air environment. Hygienic characteristic of bacterial pollution of the air environment. Solar radiation.

#### Topic 4. Heating, ventilation and lighting.

##### Content of the topic.

Hygienic requirements to heating. Local and central heating systems. Ventilation and its hygienic value. Ventilation systems. Hygienic value of airing of rooms. Determination of frequency rate of air

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exchange. Air conditioning. Hygienic requirements to natural and artificial lighting.

**Topic 5. Climate and health. Hygienic problems of adaptation and acclimatization.**

**Content of the topic.** General hygienic characteristic of climates. Hygienic problems in climatology. Climate and health. Seasonal diseases. Acclimatization to various climatic conditions and its problems. Influence of climate on health. Acclimatization and its hygienic value.

**Topic 6. Modern environmental problems. Ecology and human health.**

**Content of the topic.** Hygienic problems in ecology. Factors of the habitat and health of the population. Ecological diseases. Deposition and accumulation of hazardous substances in various objects of the environment. The impact of various physical and chemical factors on an organism.

**Section 3. Hygiene of water and water supply.**

**Topic 7. Physiological, hygienic and epidemiological value of water. Water supply sources. Water supply systems.**

**Content of the topic.** The role of a water factor in human life. Physiological value of water.

Hygienic value of water. The role of a water factor in developing of diseases. Water supply sources, their sanitary and hygienic characteristic. Water supply systems, their sanitary and hygienic characteristic.

**Topic 8. Hygienic requirements to quality of drinking water. Hygienic requirements to water quality of not centralized water supply. Hygienic bases of water supply.**

**Content of the topic.** Hygienic requirements to quality of drinking water. Hygienic requirements to water quality of not centralized water supply. The sanitary and chemical indicators characterizing biological (fecal) pollution of water. Sanitary protection of sources of water supply (zones of sanitary protection of sources of water supply).

**Topic 9. Hygienic characteristic of methods of improvement of water quality. Water purification. Water disinfecting.**

**Content of the topic.** Hygienic characteristic of methods of improvement of water quality. Water purification. Hygienic characteristic of methods of disinfecting of water. Advantages and disadvantages of methods. Water chlorination. Ways of chlorination of water. Chlorrequirement. Special methods of improvement of water quality.

**Section 4. Hygiene of nutrition.**

**Topic 10. Food and health of the population. The value of rational nutrition. Methods of definition of energy costs of an organism and principles of rational nutrition.**

**Content of the topic.** Rational nutrition. Requirements to the diet. Physiological needs for nutrient materials and energy for various groups of the population. Methods of definition of need of an organism for energy and nutrients. Determination of daily costs of energy according to tables. Calculation of daily need for the main nutrient materials.

**Topic 11. Main requirements to qualitative structure of a diet. Medical control of adequacy of food. Composition and assessment of the menu production record.**

**Content of the topic.** Main requirements to qualitative structure of a diet. Biological role of proteins, sources, daily requirement. Biological role of fats, sources, daily requirement. Biological role of carbohydrates, sources, daily requirement. Content of food fibers in vegetable food, value of food fibers. The recommended ratio of nutrient materials.


**Topic 12. Biological role of vitamins, mineral substances. Sources, norms.**

**Content of the topic.** Biological value of vitamins. Biological value of mineral substances. Oil-soluble vitamins. The role of oil-soluble vitamins in food of the person, sources, norms. Water-soluble vitamins. The role of water-soluble vitamins, sources, norms. Mineral substances. Macro - and microelements, their role. Sources, norms. Method for determining vitamins.

**Topic 13. Medical nutrition monitoring of feeding in the medical organizations. Hygienic assessment of dietetic department of hospital.**

**Content of the topic.** Food of patients as part of complex therapy and prevention. Characteristics of



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clinical nutrition.Characteristics of treatment-and-prophylactic nutrition.Dietetic nutrition.Hygienic requirements todietetic department of hospital.

**Topic 14.Nutrition value and sanitary examination of food.Nutrition value and sanitary-hygienic assessment of flour, bread.**

**Content of the topic.**Purposes and problems of sanitary examination of foodstuff, methods of a research of foodstuff: organoleptic, physical and chemical, bacteriological and their value. Nutrition and biological value of flour, bread. Flour research: determination of organoleptic and chemical indicators, determination of gluten of flour. Bread research: determination of organoleptic indicators, determination of porosity.

**Topic 15.Nutrition value and sanitary - hygienic assessment of milk, meat.**

**Content of the topic.**Nutrition and biological value of milk and dairy products.Methods of a research and assessment of quality of milk.Nutrition and biological value of meat.Methods of a research and assessment of quality of meat.Chemical methods of a research of milk.Determination of acidity of milk.Determination of falsification of milk.Determination of soda in milk.Organoleptic research of meat.Chemical research of meat.

**Topic 16.Conservation.Sanitary examination of canned food and concentrates.**

**Content of the topic.**Value of conservation.Physical methods of conservation.Biological methods of conservation.Chemical methods of conservation.Sanitary examination of canned food and concentrates.

**Topic 17.Alimentary diseases and food poisonings.**

**Content of the topic.**Alimentary diseases. The diseases caused by malnutrition. The diseases caused by overnutrition. Prevention of the diseases connected with irrational food. Food poisonings – classification, clinic, prevention.

**Topic 18.Nutrient additives: classification, characteristics, requirements.**

**Content of the topic.**General information about nutritional supplements.Definition and classification.Safety of nutritional supplements.Characteristic of nutritional supplements on the chemical composition and impact on an organism.Conditions of use of nutritional supplements.

**Topic 19.Features of nutrition of pregnant women and feeding.**

**Content of the topic.**Balanced diet of pregnant women.Nutrition in the first half of pregnancy.Nutrition in the second half of pregnancy.Vitamins, minerals in nutrition of pregnant women. Approximate menu, diet, need for liquid. Nutrition at abnormal pregnancy.

**Topic 20.Features of nutrition of young children.**

**Content of the topic.**Catering services of children of early age.Nutrition of children at chest feeding.Nutritionof children at artificial feeding.

**Topic 21.Preschool and school feeding.**

**Content of the topic.** Diet and menu card in kindergardens and at schools.

**Topic 22.Features of nutrition of elderly people.**

**Content of the topic.**Changes in digestive systemof elderly people.Features of the immune system of elderly people. Need for nutrient materials, diet forelderly people.

**Topic 23.Concluding lesson.Poll, pass-fail test.**

**Section 5.Hygiene value of soil.**


**Topic 24.Hygiene value of soil.**

**Content of the topic.**Hygienic value of the soil, structure and properties of the soil.Types of soil.The sources of pollution.Processes of self-purification of the soil.The sanitary signs of soil.The role of the soil in endemic diseases.Utilization of household waste.

**Section 6.Hygiene of residential and public buildings.**

**Topic 25.Urbanization and its hygienicvalue.**

**Content of the topic.**City-forming factors and structure of the modern city.Urbanization and

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environmental problem. Zones of the cities. Hygiene of residential and public buildings. Microclimate, ventilation, heating, lighting, characteristic of finishing materials. Hygiene of the rural inhabited places. Features of planning, building, improvement.

### **Section 7. Hygiene of hospitals.**

#### **Topic 26. Hygienic characteristic of hospitals. Hygienic requirements to placement, planning of hospitals.**

**Content of the topic.** Hygienic requirements to placement of hospitals and planning of the hospital site. Systems of building of hospitals, zones in the hospital area. Hygienic requirements to reception, to ward section.

#### **Topic 27. Prevention of an intrahospital infection.**

**Content of the topic.** Intrahospital infection. Hygienic aspects of prevention of an intrahospital infection.

#### **Topic 28. Features of planning of specialized departments of hospitals.**

**Content of the topic.** Planning of therapeutic department. Planning of surgical department. Planning of infectious department. Features of planning of gynecology department.

#### **Topic 29. Features of professional activity of doctors of various specialties.**

**Content of the topic.** Features of professional activity of doctors of a surgical profile, anesthesiologists, gynecologists, therapists.

### **Section 8. Hygiene of radiation.**

#### **Topic 30. Hygiene of radiation. Impact of ionizing radiation. Methods of protection against radioactivity.**

**Content of the topic.** Definition of an ionizing radiation. Methods of measurement of ionizing radiation. Biological effect of ionizing radiation. Principles of hygienic rationing of ionizing radiation. Radio toxicity. The opened and closed sources of radiation. Methods of protection against radioactivity.

#### **Topic 31. Radiological departments of hospital. The organization of radiation safety during the work with the opened and closed sources.**

**Content of the topic.** The organization of radiation safety of medical staff in radiological departments. Principles of protection of medical staff against ionizing radiation. Hygienic requirements to placement, planning and the equipment of radiological departments of hospital.

### **Section 9. Occupational hygiene.**


#### **Topic 32. Occupational hygiene. Harmful industrial factors. Occupational diseases.**

**Content of the topic.** Occupational hygiene. Harmful industrial factors. Types of negative factors. Occupational diseases, prevention. Dust (classification). The enterprises with the high level of dust content. Effect of dust on an organism. Prevention of dust diseases. Noise — definition. Characteristic. The enterprises with high noise level. Action of noise on an organism. Prevention of an adverse effect of noise on an organism. Vibration - definition. Characteristic. Productions with the high level of vibration. Action of vibration on an organism. Prevention of harmful action of vibration on an organism. A microclimate — definition. Types of a microclimate (enterprise). Influence of a microclimate on an organism.

#### **Topic 33. Hygienic assessment of toxicity of industrial poisons. Hygienic assessment of electromagnetic radiations.**

**Content of the topic.** Industrial poisons and professional poisonings. Effect of industrial poisons. Characteristic and types of electromagnetic radiations. Sources of generation of different types of electromagnetic radiations. Biological effect of different types of electromagnetic radiations. Preventive actions during the work with sources of electromagnetic radiations.

#### **Topic 34. Occupational hygiene in agriculture.**

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**Content of the topic.** Occupational hazards of machine operators, characteristic, preventive actions. Professional harm of cattle breeders, characteristic, preventive actions. Occupational hazards during the work with pesticides and mineral fertilizers, characteristic, preventive actions. Agricultural traumatism.

**Topic 35. Occupational injuries. Reasons, prevention.**

**Content of the topic.** Occupational injuries - definition, classification, the reasons, preventive actions.

**Section 10. Hygiene of children and teenagers.**

**Topic 36. Main problems of hygiene of children and teenagers. State of health of children and teenagers. Assessment of physical development of children and teenagers.**

**Content of the topic.** Main problems of hygiene of children and teenagers. State of health of children and teenagers. Influence of social and ecological factors on the state of health. Criteria and groups of health. Physical development as indicator of health of the population. Methods of assessment of physical development. Complex assessment of physical development. Acceleration, retardation.

**Topic 37. Hygiene of studies at school. Hygienic requirements to the organization of educational process. Hygienic requirements to placement, planning and the equipment of schools. Hygienic requirements to placement, planning, the equipment of kinder-gardens.**

**Content of the topic.** Hygiene of studies at school. Hygienic requirements to the lesson, school day, educational week. The role of activities in prevention of exhaustion. Hygienic bases of physical training. Forms of physical training. Medical groups for physical education class. Organization of occupations and requirement to creation of a physical education class. Hygienic requirements to placement, planning and the equipment of schools and kinder-gardens.

**Section 11. Hygienic bases of a healthy lifestyle. Modern problems of personal hygiene.**

**Topic 38. Healthy lifestyle and questions of personal hygiene. Hygienic requirements to clothes and footwear. Hygienic assessment of natural and artificial materials. Hygienic requirements to skin, hair and oral cavity care products.**

**Content of the topic.** Hygienic principles of a healthy lifestyle. Personal hygiene as part of public hygiene. Hygiene of a body and skin. Hygienic characteristic of care products for skin. Hygiene of teeth and oral cavity. Hygienic characteristic of care products for teeth and oral cavity. Hygienic requirements to clothes, footwear as means of protection from adverse environmental factors in various climatic conditions. Hygienic characteristic of natural and artificial materials. Hardening of an organism. Value, basic principles. Means and methods of hardening.

## 6. TOPICS OF PRACTICAL AND SEMINAR TRAINING


**Section 1. Hygiene of the air environment.**

**Topic 1. Physical properties of air and their value for an organism.**

**Practical lesson.**

**Questions** (for discussion).

1. Value of the air environment for the person.
2. Categories of the air environment.
3. Structure of the terrestrial atmosphere.
4. Physical factors of the air environment.
5. Physiologo-hygienic value of air temperature.
6. Influence on an organism of high and low temperatures.
7. Influence of atmospheric pressure upon an organism.
8. High-rise, mountain and caisson disease.
9. Hygienic value of air humidity.
10. Types of humidity. Norms. The devices used to determination of air humidity.
11. Influence on an organism of the movement of air. The devices used to definition of the direction and measurement of speed of the movement of air. "Wind rose", its value.

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## 12. Electric condition of the air environment.

### **Topic 2. Chemical composition of air and its hygienic value. Hygienic characteristic of the main sources of pollution of atmospheric air. Hygienic characteristic of bacterial pollution of the air environment. Solar radiation.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Gas composition of atmospheric air. Hygienic value of its separate components.
2. Carbon dioxide as indicator of air pollution of residential and public buildings.
3. An air cube, calculation of an air cube.
4. Types of pollution of atmospheric air, polluters.
5. Impact of chemical pollution of the air environment on health of the population.
6. Protection of atmospheric air, main nonconsumptive actions, their hygienic efficiency.
7. Hygienic characteristic of bacterial pollution of the air environment.
8. Solar radiation, value of separate parts of a solar range.
9. Impact of atmospheric pollution on health and sanitary living conditions of the population.

### **Topic 3. Heating, ventilation and lighting.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Hygienic requirements to heating.
2. Local and central heating systems.
3. Ventilation and its hygienic value.
4. Ventilation systems: mechanical all-exchange and local (incoming, exhaust).
5. Hygienic value of airing of rooms.
6. Determination of frequency rate of air exchange.
7. Air conditioning.
8. Hygienic requirements to natural lighting. The conditions providing sufficient natural lighting.
9. Indicators of natural lighting, technique of their definition. Norms of natural lighting, technique of their definition.
10. Hygienic requirements to artificial lighting. Characteristic of artificial lighting and different lamps.
11. Methods of assessment of artificial lighting.

### **Section 2. Hygiene of water and water supply.**


#### **Topic 4. Physiological, hygienic and epidemiological value of water. Water supply sources. Water supply systems.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Role of a water factor in human life.
2. Physiological value of water.
3. Hygienic value of water
4. Water consumption rates.
5. Role of a water factor in developing of diseases.
6. Water supply sources, their sanitary and hygienic characteristic.
7. Centralized system of water supply: device of the water system, hygienic requirements.
8. Local system of economic and drinking water supply: device of mine wells, tubular wells, springs, infiltration galleries, hygienic requirements.
9. Anthropogenic pollution of reservoirs.
10. Water self-cleaning.

#### **Topic 5. Hygienic requirements to quality of drinking water. Hygienic requirements to water quality of not centralized water supply. Hygienic bases of water supply.**

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### **Practical lesson.**

#### **Questions (for discussion).**

1. Hygienic requirements to quality of drinking water: (organoleptic properties, epidemiological safety, chemical harmlessness, radiation safety), standards.
2. Hygienic requirements to water quality of not centralized water supply.
3. The sanitary and chemical indicators characterizing biological (fecal) pollution of water.
4. Sanitary protection of sources of water supply (zones of sanitary protection of sources of water supply).

### **Topic 6. Hygienic characteristic of methods of improvement of water quality. Water purification. Water disinfecting.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Hygienic characteristic of methods of improvement of water quality. Water purification.
2. Hygienic characteristic of methods of disinfecting of water. Merits and demerits of methods.
3. Water chlorination. Ways of chlorination of water. A concept about chlorrequirement, chlorine absorptivity and residual chlorine.
4. Special methods of improvement of water quality (methods of removal of excess content of mineral components): softening of hard water, desalting and desalting of sea water, bitter and salty waters, fluoration, deferrization of the water containing high concentrations of iron, defluorination, decontamination, deactivation).

### **Section 3. Hygiene of nutrition.**

### **Topic 7. Food and health of the population. Value of rational nutrition. Methods of definition of energy costs of an organism and principles of rational nutrition.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Concept about a balanced diet. Value and functions of food.
2. Main questions of hygiene of food.
3. Requirements to a diet.
4. Characteristic of standards of physiological needs for feedstuffs and energy for various groups of the population.
5. Methods of definition of need of an organism for energy and nutrients.
6. Definition of daily expenses of energy by a time and tabular and fast method.
7. Calculation of daily need for the main feedstuffs. Drawing up hygienic conclusion.

### **Topic 8. Main requirements to qualitative structure of a diet. Medical control of adequacy of food. Composition and assessment of the menu production record.**

#### **Practical lesson.**

#### **Questions (for discussion).**


1. Main requirements to qualitative structure of a diet.
2. Biological role of proteins in food of the person, sources, norms.
3. Biological role of fats in food of the person, sources, norms.
4. Biological role of carbohydrates in food of the person, sources, norms.
5. Content of food fibers (cellulose) in vegetable food, value of food fibers.
6. Diet. The recommended ratio of feedstuffs.

### **Topic 9. Biological role of vitamins, mineral substances. Sources, norms.**

#### **Practical lesson.**

#### **Questions (for discussion).**

1. Biological value of vitamins.

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2. Biological value of mineral substances.
3. Oil-soluble vitamins. A role of oil-soluble vitamins in food of the person, sources, norms.
4. Water-soluble vitamins. Role of water-soluble vitamins B food of the person, sources, norms.
5. Mineral substances. Macro - and microelements, their role in food of the person. Sources, norms.
6. Method for determining vitamins.

**Topic 10. Medical nutrition monitoring of feeding in the medical organizations. Hygienic assessment of dietetic department of hospital.**

**Practical lesson.**

**Questions** (for discussion).

1. Characteristics of clinical nutrition.
2. Characteristics of treatment-and-prophylactic food.
3. Basic principles of creation of dietary food, system of dietary food. 15 medical tables, features of each diet, indications.
4. Catering services in MPI. System of purpose of treatment-and-prophylactic food.
5. Hygienic requirements to catering department of hospital.

**Topic 11. Nutrition value and sanitary examination of food. Nutrition value and sanitary and hygienic assessment of flour, bread.**

**Practical lesson.**

**Questions** (for discussion).

1. Purposes and problems of sanitary examination of foodstuff, methods of a research of foodstuff: organoleptic, physical and chemical, bacteriological and their value.
2. Nutrition and biological value of flour.
3. Nutrition and biological value of bread.
4. Flour research: definition of organoleptic and chemical indicators, definition of gluten of flour.
5. Bread research: definition of organoleptic indicators, determination of porosity.

**Topic 12. Nutrition value and sanitary and hygienic assessment of milk, meat.**

**Practical lesson.**

**Questions** (for discussion).

1. Nutrition and biological value of milk and dairy products.
2. Methods of a research and assessment of quality of milk.
3. Nutrition and biological value of meat.
4. Methods of a research and assessment of quality of meat.
5. Chemical methods of a research of milk. Determination of acidity of milk. Definition of falsification of milk. Definition of soda in milk.
6. Organoleptic research of meat. Chemical research of meat.

**Topic 13. Conservation. Sanitary examination of canned food, concentrates.**

**Practical lesson.**

**Questions** (for discussion).


1. Value of conservation.
2. Physical methods of conservation.
3. Biological methods of preservation.
4. Chemical methods of conservation.
5. Sanitary examination of canned food and concentrates.

**Topic 14. Alimentary diseases and food poisonings.**

**Practical lesson.**

**Questions** (for discussion).

1. Alimentary diseases. The diseases caused by malnutrition.
2. The diseases caused by overnutrition.

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3. Prevention of the diseases connected with irrational food.
4. Food poisonings – classification.
5. Food poisonings of microbic origin, prevention.
6. Food poisonings of not microbic etiology, prevention.

#### **Section 4. Hygiene value of soil.**

##### **Topic 15. Hygiene value of soil.**

###### **Practical lesson.**

###### **Questions** (for discussion).

1. Processes of self-purification of the soil.
2. The sanitary signs of soil.
3. The role of the soil in endemic diseases.
4. Relation of population health to soil conditions. Sources and nature of soil contamination. Self-cleaning of the soil.
5. Collection, removal, and disinfection of liquid waste.
6. Collection, disposal, and utilization of solid household waste.

#### **Section 5. Hygiene of residential and public buildings.**

##### **Topic 16. Urbanization and its hygienic value.**

###### **Practical lesson.**

###### **Questions** (for discussion).

1. Urbanization, city-forming factors. Features of forming of the environment in the cities. Environmental problems.
2. Planning of the inhabited places. Types. The choice of the place for the settlement.
3. Functional zoning of the city. Systems of building of streets.
4. Hygienic aspects of improvement of the cities, role of green plantings.
5. Features of planning of the rural inhabited places.
6. Planning of dwellings. Justification of norms of an area.
7. Hygiene of dwellings, microclimate, ventilation, lighting, heating. Hygienic characteristic of finishing construction materials.

#### **Section 6. Hygiene of hospitals.**

##### **Topic 17. Hygienic characteristic of hospital. Hygienic requirements to placement, planning of hospitals.**

###### **Practical lesson.**

###### **Questions** (for discussion).

1. Classification of medical organizations.
2. Hygienic requirements to placement of hospitals and planning of the hospital area.
3. Systems of building of hospitals, zones in the hospital area.
4. Hygienic requirements to reception.
5. Hygienic requirements to ward section.
6. Features of planning of children's hospitals.


##### **Topic 18. Prevention of an intrahospital infection.**

###### **Practical lesson.**

###### **Questions** (for discussion).

1. Intrahospital infection.
2. Hygienic aspects of prevention of an intrahospital infection.

#### **Section 7. Hygiene of radiation.**

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**Topic 19. Hygiene of radiation. Impact of ionizing radiation. Methods of protection against radioactivity.**

**Practical lesson.**

**Questions** (for discussion).

1. Radioactivity.
2. Types of radiation.
3. Definition of an ionizing radiation.
4. Methods of measurement of ionizing radiation.
5. Biological effect of ionizing radiation.
6. Principles of hygienic rationing of ionizing radiation.
7. Radio toxicity.
8. The opened and closed sources of radiation.
9. Methods of protection against radioactivity.
10. Devices for determination of radioactivity/

**Section 8. Occupational hygiene.**

**Topic 20. Occupational hygiene. Harmful industrial factors. Occupational diseases.**

**Practical lesson.**

**Questions** (for discussion).

1. Occupational hygiene.
2. Harmful industrial factors. Types of negative factors.
3. Occupational diseases, prevention.
4. Dust (classification).
5. The enterprises with the high level of dust content.
6. Effect of dust on an organism. Prevention of dust diseases.
7. Noise — definition. Characteristic.
8. The enterprises with high noise level.
9. Impact of noise on an organism. Prevention of an adverse effect of noise on an organism.
10. Vibration - definition. Characteristic. Productions with the high level of vibration. Impact of vibration on an organism.
11. Prevention of harmful action of vibration on an organism.
12. A microclimate — definition. Types of a microclimate (enterprise). Impact of a microclimate on an organism.

**Section 9. Hygiene of children and teenagers.**

**Topic 21. Main problems of hygiene of children and teenagers. State of health of children and teenagers. Assessment of physical development of children and teenagers.**

**Practical lesson.**


**Questions** (for discussion).

1. Main problems of hygiene of children and teenagers.
2. State of health of children and teenagers.
3. Impact of social and ecological factors on the state of health.
4. Criteria and groups of health.
5. Physical development as indicator of health of the population.
6. Methods of assessment of physical development.
7. Complex assessment of physical development. Acceleration, retardation.

**Topic 22. Hygiene of studies at school. Hygienic requirements to the organization of educational process. Hygienic requirements to placement, planning and the equipment of schools. Hygienic requirements to placement, planning, the equipment of kinder-gardens.**

**Practical lesson.**



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### Questions (for discussion).

1. Hygiene of studies at school.
2. Hygienic requirements to the lesson, school day, educational week.
3. The role of activities in prevention of exhaustion.
4. Hygienic bases of physical training.
5. Forms of physical training.
6. Medical groups for physical education class.
7. Organization of occupations and requirement to creation of a physical education class.
8. Hygienic requirements to placement, planning and the equipment of schools and kinder-gardens.

## 7. LABORATORY WORKS, WORKSHOPS

This type of works is not provided unitary enterprise.

## 8. TOPIC COURSE, EXAMINATIONS, PRESENTATION OF REPORTS


№	Topic	Approximate subjects of reports
1.	History of hygiene. Subject, contents and problems of hygiene. Methods of hygienic researches.	<ol style="list-style-type: none"> <li>1. History of formation and development of hygiene.</li> <li>2. Subject, contents and value of hygiene.</li> <li>3. Hygiene as fundamentals of preventive medicine, communication of hygiene with other sciences. The place of hygiene in the system of medical education.</li> </ol>
2.	Climate and health. Hygienic problems of adaptation and acclimatization.	<ol style="list-style-type: none"> <li>1. Hygienic characteristic of climates. Hygienic problems in climatology.</li> <li>2. Climate and health. Seasonal diseases.</li> <li>3. Acclimatization to various climatic conditions and its problems.</li> </ol>
3.	Modern environmental problems. Ecology and human health.	<ol style="list-style-type: none"> <li>1. Hygienic problems in ecology. Factors of the habitat and health of the population.</li> <li>2. Ecological diseases.</li> <li>3. Deposition and accumulation of hazardous substances in various objects of the environment.</li> <li>4. The impact of various physical and chemical factors on an organism.</li> </ol>
4.	Nutrient additives: classification, characteristics, requirements.	<ol style="list-style-type: none"> <li>1. General information about nutritional supplements. Definition and classification. Safety of nutritional supplements.</li> <li>2. Characteristic of nutritional supplements on the chemical composition and impact on an organism. Conditions of use of nutritional supplements.</li> </ol>
5.	Features of nutrition of pregnant women and feeding.	<ol style="list-style-type: none"> <li>1. Balanced diet of pregnant women.</li> <li>2. Nutrition in the first half of pregnancy.</li> <li>3. Nutrition in the second half of pregnancy.</li> <li>4. Vitamins, minerals in nutrition of pregnant women.</li> </ol>

		<p>5. Approximate menu, diet, need for liquid.</p> <p>6. Nutrition at abnormal pregnancy.</p>
6.	Features of nutrition of young children.	<p>1. Catering of children of early age.</p> <p>2. Nutrition of children at breast feeding.</p> <p>3. Nutrition of children at artificial feeding.</p>
7.	Preschool and school feeding.	<p>1. Diet and menu card in kindergartens.</p> <p>2. Diet and menu card at schools.</p>
8.	Features of nutrition of elderly people.	<p>1. Changes in digestive system of elderly people.</p> <p>2. Features of the immune system of elderly people.</p> <p>3. Need for nutrient materials, diet for elderly people.</p>
9.	Features of planning of specialized departments of hospitals.	<p>1. Features of planning of therapeutic department.</p> <p>2. Features of planning of surgical department.</p> <p>3. Features of planning of infectious department.</p> <p>4. Features of planning of gynecology department.</p>
10.	Features of professional activity of doctors of various specialties.	<p>1. Professional activity of doctors of a surgical profile, anesthesiologists, obstetricians-gynecologists, therapists.</p>
11.	Radiological departments of hospital. The organization of radiation safety during the work with the opened and closed sources.	<p>1. The organization of radiation safety of medical staff in radiological departments.</p> <p>2. Principles of protection of medical staff against ionizing radiation.</p> <p>3. Hygienic requirements to placement, planning and the equipment of radiological departments of hospital.</p>
12.	Hygienic assessment of toxicity of industrial poisons. Hygienic assessment of electromagnetic radiations.	<p>1. Industrial poisons and professional poisonings. General patterns of effect of industrial poisons. (ways of penetration, a manifestation form, the factors defining effect of poisons).</p> <p>2. Characteristic and types of electromagnetic radiations.</p> <p>3. Sources of generation of different types of electromagnetic radiations.</p> <p>4. Biological effect of different types of electromagnetic radiations.</p> <p>5. Preventive actions during the work with sources of electromagnetic radiations.</p>
13.	Occupational health in agriculture.	<p>1. Occupational hazards of machine operators, characteristic, preventive actions.</p> <p>2. Professional harm of cattle breeders, characteristic, preventive actions.</p> <p>3. Occupational hazards during the work with</p>


		pesticides and mineral fertilizers, characteristic, preventive actions. 4. Agricultural traumatism.
14.	Topic 35. Occupational injuries. Reasons, prevention.	1. Occupational injuries - definition, classification, the reasons, preventive actions.
15.	Hygienic bases of a healthy lifestyle. Hygienic requirements to clothes and footwear. Hygienic assessment of natural and artificial materials. Hygienic requirements to skin, hair and oral cavity care products.	1. Hygienic principles of a healthy lifestyle. Personal hygiene as part of public hygiene. 2. Hygiene of a body and skin. Hygienic characteristic of care products for skin. 3. Hygiene of teeth and oral cavity. Hygienic characteristic of care products for teeth and oral cavity. 4. Hygienic requirements to clothes, footwear as means of protection from adverse environmental factors in various climatic conditions. Hygienic characteristic of natural and artificial materials. 5. Hardening of an organism. Value, basic principles. Means and methods of hardening.

## 9. THE LIST OF QUESTIONS TO EXAMINATION, PASS-FAIL TEST.


1. Subject and content of hygiene.
2. History of formation and development of hygiene.
3. Methods of hygienic researches.
4. Ecology. Modern environmental problems.
5. Physical properties of air and their value for an organism. Influence on an organism of high and low temperatures. Overheating, overcooling. Prevention measures. The devices used to determination of temperature. Norms.
6. Influence of atmospheric pressure upon an organism. High-rise, mountain, caisson disease. The devices used to measurement of barometric pressure.
7. Fiziologo-hygienic value of air humidity. Types of humidity. The devices used to determination of air humidity. Norms.
8. Influence on an organism of the movement of air. The devices used to definition of the direction and measurement of speed of the movement of air. Norms. "Windrose", its value.
9. Electric condition of the atmosphere (air ionization, electric field of Earth, electromagnetic field, geomagnetic field, their hygienic value).
10. Gas composition of atmospheric air. Hygienic value of its separate components
11. Hygienic value of carbonic acid. Maximum allowable concentration of carbon dioxide.
12. An air cube, calculation of an air cube, norm of a cubic capacity.
13. Pollution of atmospheric air. Degree of danger of industrial emissions to the environment and state of health of the population.
14. Solar radiation and its hygienic value. Hygienic value of separate parts of a solar range.
15. Biological effect of an ultra-violet part of a solar range depending on length of waves. Ultra-violet insufficiency, its manifestation. Prevention.
16. Climate - a formulation. Climatic factors. Weather — a formulation. The factors defining weather. Seasonal diseases and meteorological sky reactions. Prevention.
17. Physiological, hygienic, epidemiological value of water.
18. The diseases connected with change of salt and microelement composition of water.

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19. Water supply sources, their comparative hygienic characteristic.
20. Reasons of anthropogenic pollution of reservoirs. Waterself-cleaning.
21. Indicators of bacterial pollution of water (bacteriological, chemical).
22. Hygienic requirements to water quality. Hygienic requirements to quality of a source of water supply.
23. Hygienic characteristic of methods of improvement of water quality. Waterpurification.
24. Hygienic characteristic of methods of improvement of water quality.
25. Hygienic characteristic of a local and centralized system of water supply.
26. Zones of sanitary protection of water sources. Normsofwaterconsumption.
27. Hygienic value of the soil, structure, properties of the soil.
28. Communication of health of the population with soil conditions. Sources and nature of pollution of the soil. Self-cleaningofthesoil.
29. Collecting, removal, disinfecting of a liquid garbage.
30. Collecting, removal, utilization of municipal solid waste.
31. Urbanization, city-forming factors. Features of forming of the environment in the cities. Environmentalproblems.
32. Planning of the inhabited places. Types. The choice of the place for the settlement.
33. Functional zoning of the city. Systems of building of streets.
34. Hygienic aspects of improvement of the cities, role of green plantings.
35. Features of planning of the rural inhabited places.
36. Planning of dwellings. Justification of norms of a area.
37. Hygiene of dwellings, microclimate, ventilation, lighting, heating. Hygieniccharacteristicoffinishingconstructionmaterials.
38. Hygienic requirements to natural lighting. Conditions on which the sufficiency of natural lighting depends.
39. Indicators of natural lighting. Method for determining. Norms.
40. Hygienic requirements to artificial lighting. Types, their comparative characteristic. Methods of assessment of artificial lighting. Norms.
41. Hygienic value of ventilation. Types. Systems. Aeration coefficient. Frequency rate of air exchange. Conditioning.
42. Classification of healthcare institutions. Placement of MPI depending on a profile of hospitals. Sizeandpercentagedistributionofthelandplot.
43. Zoning of the area of hospital. Systems of building of hospitals. Advantagesandshortcomingsfofeachoption.
44. Hygienic requirements to reception. Placement. Tasks. Setofrooms.
45. Hygienic requirements to department, ward section. Setofrooms.
46. Hygienic requirements to chambers, the area, the equipment, arrangement of furniture in chamber. Microclimate, lighting, ventilation, aircube, heating.
47. Features of planning of children's hospitals.
48. System of sanitary hygienic actions for creation of the guarding mode and favorable conditions for stay of patients in medical institution.
49. Hygienic requirements to placement, planning, the equipment of hospital catering departments. Sanitarymode.
50. Value and functions of food for human health. Main questions of hygiene of food.
51. Hygienic bases of a balanced diet. Requirementstofood.
52. Physiological norms of food for various groups of the population. Quantity and goodness, full value, balance of food. The diseases connected with disturbance of food. Theirprevention.
53. Biological role of proteins, sources, norms.
54. Biological role of fats, sources, norms.
55. Biological role of carbohydrates, sources, norms.

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56. Biological role of oil-soluble vitamins, sources, norms.
57. Biological role of water-soluble vitamins, sources, norms.
58. Biological role of mineral substances, sources, norms, macro - and microelements.
59. Methods of sanitary examination and hygienic assessment of quality of foodstuff.
60. Nutrition and biological value of grain and bean products. Methods of a research of flour and bread.
61. Nutrition and biological value of milk. Epidemiological value of milk. Methods of a research and assessment of quality of milk.
62. Nutrition and biological value of meat. Epidemiological value of meat. Methods of a research of assessment of quality of meat.
63. Value of conservation. Hygienic characteristic of methods of conservation. Hygienic assessment of canned food and concentrates.
64. Food poisonings, their classification. Food poisonings of bacterial origin.
65. Food poisonings not of bacterial origin. Prevention.
66. Occupational health. The main questions studied by occupational health. The research methods used in occupational health.
67. Production harm (classification), occupational diseases. Hygienic regulation of factors of the production environment.
68. Work physiology. Exhaustion, overfatigue, fatigue. Prevention.
69. Dust (classification). The enterprises with the high level of dust content. Effect of dust on an organism. Methods of definition and assessment. Devices. Prevention of dust diseases.
70. Noise — definition. Characteristic. The enterprises with high noise level. Action of noise on an organism. Devices. Prevention of an adverse effect of noise on an organism.
71. Vibration - definition. Characteristic. Productions with the high level of vibration. Action of vibration on an organism. Devices. Prevention of harmful action of vibration on an organism.
72. Microclimate — definition. Types of a microclimate (enterprise). Complex influence of a microclimate on an organism. The microclimate parameters promoting overheating and overcooling of an organism. Prevention.
73. The forced position of a body, overstrain of separate bodies and systems, prevention of diseases, related.
74. Occupational injuries, reasons. Prevention.
75. Industrial poisons and professional poisonings. The general patterns of effect of industrial poisons (ways of penetration, a manifestation form, the factors defining effect of poisons.
76. Professional poisonings with carbon monoxide, lead, mercury. Enterprises. Clinic. Prevention.
77. Occupational health of doctors of various specialties (surgeons, therapists).
78. Occupational health in agriculture.
79. Radioactivity. Characteristic of main types of radioactive radiations. Biological effect of ionizing radiation.
80. Principles of hygienic rationing and protection against radiation exposure.
81. Hygienic requirements to placement, planning and the equipment of radiological departments of hospital. Occupational health in radiological departments of hospital, laboratories and in radiological offices.
82. Physical development of children and teenagers. The factors influencing physical development. Indicators of physical development.
83. Methods of a research and assessment of physical development.
84. Assessment of physical development in signalny deviations, profile of physical development and on a regression scale.
85. Complex assessment of physical development.
86. Main patterns of growth and development of the child. Value.


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87. Acceleration, reasons, value.
88. State of health of children and teenagers. The factors forming health. Criteria and groups of health.
89. Hygienic requirements to placement, planning and the equipment of preschool institutions. Principles of group and individual isolation.
90. Hygienic requirements to planning and placement of schools. Hygienic requirements to school furniture.
91. Day regimen — a concept. Types of a day regimen. Physiological bases. The main components of a day regimen depending on age of children and teenagers. Hygiene of educational process.
92. Hygienic bases of physical training. Medical groups for physical education classes.
93. Nutritional supplements. Definition and classification. Safety of nutritional supplements. Characteristic of nutritional supplements on the chemical composition and impact on an organism. Conditions of application of nutritional supplements.
94. Hygienic principles of a healthy lifestyle. Personal hygiene as part of public hygiene.
95. Hygiene of a body and skin. Hygienic characteristic of care products for skin.
96. Hygiene of teeth and oral cavity. Hygienic characteristic of care products for teeth and oral cavity.
97. Hygienic requirements to clothes, footwear as means of protection from adverse environmental factors in various climatic conditions. Hygienic characteristic of natural and artificial materials.
98. Hardening of an organism. Value, basic principles.
99. Methods of hardening.


## 10. INDEPENDENT WORK OF STUDENTS

Form of education: internal

Topics	Type of independent work	Volume in hours	Control form
Topic 1. History of formation and development of hygiene. Subject, contents and problems of hygiene. Methods of hygienic researches.	study of a training material, report	3	verification reports, pass-fail test, examination
Topic 2. Climate and health. Hygienic problems of adaptation and acclimatization.	study of a training material, report	6	verification of reports, pass-fail test, examination
Topic 3. Modern environmental problems. Ecology and human health.	study of a training material, report	6	verification of reports, pass-fail test, examination
Topic 4. Nutrient additives: classification, characteristics, requirements.	study of a training material, report	2	verification of reports
Topic 5. Features of nutrition of pregnant women and feeding	study of a training material, report	4	verification of reports
Topic 6. Features of nutrition of children of early age.	study of a training material, report	6	verification of reports

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Topic 7. Preschool and school feeding.	study of a training material, report	6	verification of reports
Topic 8. Features of nutrition of elderly people.	study of a training material, report	6	verification of reports
Topic 9. Features of planning of specialized departments of hospitals.	study of a training material, report	8	verification of reports
Topic 10. Features of professional activity of doctors of various specialties.	study of a training material, report	8	verification of reports
Topic 11. Radiological departments. The organization of radiation safety during the work with the opened and closed sources.	study of a training material, report	8	verification of reports
Topic 12. Hygienic assessment of toxicity of industrial poisons. Hygienic assessment of electromagnetic radiations.	study of a training material, report	8	verification of reports, examination
Topic 13. Occupational health in agriculture.	study of a training material, report	8	verification of reports, examination
Topic 14. Occupational injuries. Reasons, prevention.	study of a training material, report	7	verification of reports, examination
Topic 15. Healthy lifestyle and questions of personal hygiene. Hygienic requirements to clothes and footwear. Hygienic assessment of natural and artificial materials. Hygienic requirements to skin, hair and oral cavity care products.	study of a training material, report	7	verification of reports, examination

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## 11. EDUCATIONAL AND METHODOLOGICAL AND INFORMATION SUPPORT OF DISCIPLINE

### a) List of recommended literature

#### main literature:

1. Melnichenko, P. I. Hygiene : textbook / ed. Melnichenko P. I. - Москва : ГЭОТАР-Медиа, 2021. - 512 с. - ISBN 978-5-9704-5919-5. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL : <https://www.studentlibrary.ru/book/ISBN9785970459195.html>
2. Popova N.R., Environmental Analytical Control of Atmospheric Air: Study Guide / Popova N.R., Bogolitsyn K.G., Ivanchenko N.I. - Архангельск : ИДСАФУ, 2015. - ISBN 978-5-261-01087-6 - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : <https://www.studentlibrary.ru/book/ISBN9785261010876.html>

#### additional literature:

1. Makhova, N. A. Laboratory manual of hygiene for foreign medical students / N. A. Makhova, Zauneeva R. Sh., M. B. Niezmykhamedova ; Ulyanovsk State University, Institute of Medicine, Ecology and Physical culture. - Электрон. текстовые дан. (1 файл : 451 КБ). - Ulyanovsk : ULSU, 2017. - Текст на англ. яз. - Загл. с экрана. - Текст : электронный <http://lib.ulsu.ru/MegaPro/Download/MObject/935>
2. Educational and methodological textbook for practical classes on hygiene [Электронный ресурс] / Shashina E.A., Makarova V.V. - М.: ГЭОТАР-Медиа, 2020. Режим доступа: <http://studentlibrary.ru/book/ISBN9785970452899.html>
3. Air hygiene : study guide to practical lessons on general hygiene for foreign medical students / E. V. Alabina, V. P. Demin, A. V. Demin, M. B. Niezmykhamedova; Ulyanovsk State University, Institute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2020. - 56 p. - На англ. яз.; Загл. с экрана. - Электрон. текстовые дан. (1 файл : 808 КБ). - Режим доступа: ЭБСУЛГУ. - Текст : электронный. <http://lib.ulsu.ru/MegaPro/Download/MObject/8788>

#### educational and methodical literature:

##### 1. Alabina E. V.


Methodological instructions on the organization of independent work of students in the discipline "Hygiene" for the specialty 31.05.01 "General medicine" / E. V. Alabina. - Ulyanovsk : ULSU, 2022. - Неопубликованный ресурс. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/11495>. - Режим доступа: ЭБСУЛГУ. - Текст : электронный.

Coordinated:

/Chief librarian of SL ULSU/ Stadolnikova D.R./  
Position of the employee of scientific library Full name signature





Ministry of science and higher education of the Russian Federation Ulyanovskstateuniversity	Form	
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*Профессиональные базы данных, информационно-справочные системы*

**1. Электронно-библиотечные системы:**

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2023]. – URL: <http://www.iprbookshop.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2023]. - URL: <https://urait.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2023]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2023]. – URL: <https://www.rosmedlib.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2023]. – URL: <https://www.books-up.ru/ru/library/>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2023]. – URL: <https://e.lanbook.com>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС Znanium.com : электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2023]. - URL: <http://znanium.com>. – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

**2. КонсультантПлюс** [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2023].

**3. Базы данных периодических изданий:**

3.1. eLIBRARY.RU: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2023]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

3.2. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon) : электронная библиотека / ООО ИД «Гребенников». – Москва, [2023]. – URL: <https://id2.action-media.ru/Personal/Products>. – Режим доступа : для авториз. пользователей. – Текст : электронный.


**4. Федеральная государственная информационная система «Национальная электронная библиотека»** : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2023]. – URL: <https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

**5. Российское образование** : федеральный портал / учредитель ФГАУ «ФИЦТО». – URL: <http://www.edu.ru>. – Текст : электронный.

**6. Электронная библиотечная система УлГУ** : модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

Согласовано:

*ведущий инженер* / *Щуренко ЮВ* / *М.А.С.* / *18.05.2023г*  
 Должность сотрудника УИТиГ      ФИО      Подпись      Дата

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## 12. MATERIAL TECHNICAL SUPPORT OF DISCIPLINE:

For training the following material support is used: educational audiences for carrying out a practical training and individual consultations, the current control and intermediate certification with a set of the demonstration equipment for ensuring representation of illustrative material for discipline according to the working program.

The room is completed with a set of student furniture.

Technical means:

1. Classroom board.
2. Workplace of the teacher.

## 13. SPECIAL CONDITIONS FOR STUDENTS WITH LIMITED OPPORTUNITIES OF HEALTH

Training in OPOP IN students with limited opportunities of health is carried out taking into account features of psychophysical development, individual opportunities and the state of health of such students. Education of students with limited opportunities of health can be organized as together with other students, and separately. In case of need, studying from among persons with limited opportunities of health (according to the statement of the student) some of the following options of perception of information taking into account their specific psychophysical features can be offered:

–for persons with disorders of vision: in printed form the increased font; in electronic form; in the form of the audiofile (transfer of training materials to an audioformat); in printed form be always on the lips Braille; individual consultations with attraction of a tiflosurdoperevodchik; individual tasks and consultations.

–for persons with a hearing disorder: in printed form; in electronic form; videos with subtitles; individual consultations with involvement of the signer; individual tasks and consultations.

–for persons with musculoskeletal disorders: in printed form; in electronic form; in the form of the audiofile; individual tasks and consultations".

In case of need uses in educational process of partially/exclusively remote educational technologies, the organization of work of PPS with OVZ and disabled people is provided in the electronic information and education environment taking into account their specific psychophysical features.


Developer





signature


Alabina E.V

full name

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**LIST OF CHANGES of  
Educational plan of discipline "Hygiene"  
Speciality 31.05.01. «General medicine»**

<b>№</b>	<b>Content of the change or a link to the attached text of the</b>	<b>Full name of the head of the Department developing the discipline</b>	<b>Signature</b>	<b>Date</b>
1	Introduction of changes to item C) Professional databases, information and reference systems item 11 "Educational, methodological and information support of the discipline" with the design of Appendix 1	Горбунов В.И.		22.05.2024
2	Introduction of changes to item A) Recommended Literature item 11 "Educational, methodological and information support of the discipline" with the design of Appendix 2	Горбунов В.И.		22.05.2024

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Приложение 1

## 11. EDUCATIONAL AND METHODOLOGICAL AND INFORMATION SUPPORT OF DISCIPLINE

### a) List of recommended literature

#### main literature:

1. Melnichenko, P. I. Hygiene : textbook / ed. Melnichenko P. I. - Москва : ГЭОТАР-Медиа, 2021. - 512 с. - ISBN 978-5-9704-5919-5. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL : <https://www.studentlibrary.ru/book/ISBN9785970459195.html>
2. Hygiene. Part 1 = Гигиена. Ч. 1 : Manual for General medicine students, specialty / Н. И. Латышевская, Л. А. Давыденко, Н. В. Левченко и др. - 2-е изд., перераб. и доп.. - Волгоград : ВолгГМУ, 2023. - 136 с. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/hygiene-part-1-16571727/>
3. Латышевская Н. И. Manual in hygiene P. 2 = Учебное пособие по гигиене для студентов лечебного факультета, обучающихся по специальности «Лечебное дело» на английском языке : for General Medicine students, specialty «General Medicine», English medium / Н. И. Латышевская, Л. А. Давыденко, Н. В. Левченко. - Волгоград : ВолгГМУ, 2022. - 192 с. - ISBN 9785965207480. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/manual-in-hygiene-p-2-15846560/>

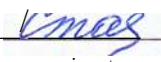
#### additional literature:

1. Makhova, N. A. Laboratory manual of hygiene for foreign medical students / N. A. Makhova, Zayneeva R. Sh., M. B. Niezmykhamedova ; Ulyanovsk State University, Institute of Medicine, Ecology and Physical culture. - Электрон. текстовые дан. (1 файл : 451 КБ). - Ulyanovsk : ULSU, 2017. - Текст на англ. яз. - Загл. с экрана. - Текст : электронный <http://lib.ulsu.ru/MegaPro/Download/MObject/935>
2. Educational and methodological textbook for practical classes on hygiene [Электронный ресурс] / Shashina E.A., Makarova V.V. - М.: ГЭОТАР-Медиа, 2020. Режим доступа: <http://studentlibrary.ru/book/ISBN9785970452899.html>
3. Air hygiene : study guide to practical lessons on general hygiene for foreign medical students / E. V. Alabina, V. P. Demin, A. V. Demin, M. B. Niezmykhamedova; Ulyanovsk State University, Institute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2020. - 56 p. - На англ. яз.; Загл. с экрана. - Электрон. текстовые дан. (1 файл : 808 КБ). - Режим доступа: ЭБСУЛГУ. - Текст : электронный. <http://lib.ulsu.ru/MegaPro/Download/MObject/8788>


#### educational and methodological literature:

1. Alabina E. V. Methodological instructions on the organization of independent work of students in the discipline "Hygiene" for the specialty 31.05.01 "General medicine" / E. V. Alabina. - Ulyanovsk : ULSU, 2022. - Неопубликованный ресурс. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/11495>. - Режим доступа: ЭБСУЛГУ. - Текст : электронный.

AGREED:

Leading specialist                      Стадольникова/                       2024\_

The position of the worker scientific library      Full name                      signature                      data

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## *Профессиональные базы данных, информационно-справочные системы*

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1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2024]. - URL: <https://urait.ru> . – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2024]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2024]. – URL: <https://www.rosmedlib.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2024]. – URL: <https://www.books-up.ru/ru/library/> . – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2024]. – URL: <https://e.lanbook.com>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС **Znanium.com** :электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2024]. - URL: <http://znanium.com> . – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

**2. КонсультантПлюс** [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2024].

**3. eLIBRARY.RU**: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2024]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

**4. Федеральная государственная информационная система «Национальная электронная библиотека»** : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2024]. – URL:<https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

**5. Российское образование**: федеральный портал / учредитель ФГАУ «ФИЦТО». – URL: <http://www.edu.ru>. – Текст : электронный.

**6. Электронная библиотечная система УлГУ** : модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

Инженер ведущий

Щуренко



Ю.В. 2024