

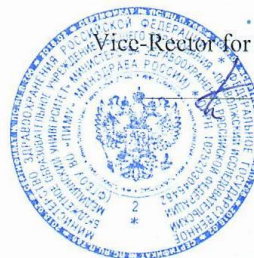
Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation

APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021



### WORKING PROGRAM

Name of the academic discipline: **GENERAL HYGIENE**

Specialty: **33.05.01 PHARMACY**

Qualification: **PHARMACIST**

Department: **HYGIENE**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **108 academic hours**

Nizhny Novgorod  
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 33.05.01 PHARMACY, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 219 of March 27, 2018.

**Developers of the working program:**

Maksimenco E.O., Ph.D. in Medical Sciences, associate professor of the Department of Hygiene

The program was reviewed and approved at the department meeting (protocol No. 01 June 2021, date)

Head of the Department,  
Doctor of Medical Sciences

  
\_\_\_\_\_  
(signature)

E. S. Bogomolova

01 June 2021

AGREED

Deputy Head of EMA ph.d. of biology  Lovtsova L.V.

01 June 2021

## **1. The purpose and objectives of mastering the academic discipline General Hygiene:**

### 1.1. The purpose of mastering the discipline:

the formation of systemic knowledge of preventive medicine, hygienic knowledge, skills and abilities to assess the impact of environmental factors on the population's health, the impact of the environment on workers in pharmacies and pharmaceutical enterprises, which will allow mastering a number of universal (UC-8: UC-8.1, UC-8.2) and general professional competencies (GPC-2: GPC-2.2, GPC-3: GPC-3.3).

### 1.2. Tasks of the discipline:

1. Formation of knowledge about environmental and occupational factors that shape the health of pharmacists and the population.

2. Formation of skills to preserve the quality and safety of medicines

3. Formation of knowledge and skills to prevent the development of occupational diseases among pharmacists and the population.

### 1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

#### **Know:**

- fundamentals of the legislation of the Russian Federation on the protection of public health;
- factors that shape human health (environmental, occupational, social, psychoemotional, etc.);
- hygienic requirements for the device, organization of work and mode of pharmacies;
- diseases associated with the adverse effects of natural and social factors;
- diseases associated with the adverse effects of occupational factors in pharmacies and pharmaceutical enterprises;
- hygienic aspects of nutrition, healthy diet, prevention of food-borne diseases;
- hygienic aspects of water, prevention of water-borne diseases;
- fundamentals of preventive medicine, organization of preventive measures aimed at improving the health of the population and pharmacists

#### **Be able to:**

- Analyze and evaluate the health status of the population and the impact of environmental and industrial factors;
- implement preventive, hygienic and anti-epidemic measures.
- use primary prevention methods in professional activities;
- carry out activities with the population for primary and secondary prevention of the most common diseases, carry out preventive measures to increase the body's resistance to adverse environmental factors, and promote a healthy lifestyle

#### **Possess:**

- Assessments of the state of public health.
- Interpretation of the results of laboratory, instrumental methods.
- Technique for creating the necessary sanitary regime for pharmacies and pharmaceutical enterprises

## **2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.**

**2.1.** The discipline General Hygiene refers to the core part Block 1 of GEP HE (B1.B.24).

The discipline is taught in 5 semester/ III year of study.

**2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:**

computer science, general and inorganic chemistry, biological chemistry, physiology with the basics of anatomy, pathology, microbiology.

**2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:**

pharmacology, pharmaceutical chemistry, toxicological chemistry, pharmacy management and economics, pharmaceutical ecology.

**3. Deliverables of mastering the academic discipline and metrics of competence acquisition**

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	UC-8	The ability to create and maintain safe living conditions, including in case of emergencies	CAM-1 <sub>UC-8.1</sub> Analyze the factors of harmful influence on the vital activity of the elements of the environment (technical devices, technological processes, materials, buildings and structures, natural and social factors) CAM-2 <sub>UC-8.2</sub> Identification of hazardous and harmful factors within the framework of the professional activities	Fundamentals of the legislation of the Russian Federation on health protection of public health. Factors that shape human health (environmental, occupational, social, psycho-emotional) Diseases associated with the adverse effects of natural and social factors.	Plan, analyze and evaluate the population health and the impact of natural and industrial factors. Use methods of primary prophylaxis in professional activities. Use an educational and scientific literature to solve the educational tasks, search for the necessary information.	Skills of independent work with educational and scientific literature for solving educational and practical tasks.
2.	GPC-2	The ability to apply knowledge about morphofunctional features, physiological states and pathological processes in the human body to solve professional tasks	CAM-2 <sub>GPC-2.2</sub> Explain the main and side effects of drugs, the effects of their combined use and interaction with food, taking into account morphofunctional features, physiological conditions and	Fundamentals of preventive medicine, organization of preventive measures aimed at improving pharmacist's and population health. Methods of	Plan, analyze and evaluate pharmacist's health; influence of environmental and occupational factors. Participate in the organization	Skills in developing measures for primary and secondary prevention of the most common diseases. Methods of sanitary and educational

			pathological processes in the human body.	sanitary and educational work.	and provision of preventive care to the population. Promoting a healthy lifestyle.	work on the formation of a healthy lifestyle and maintaining health.
3.	GPC-3	The ability to carry out professional activities, taking into account specific economic, environmental, social factors within the framework of the system of legal regulation of the sphere of circulation of medicines	CAM-3 <sup>GPC-3.3</sup> Perform professional activities taking into account their impact on the environment, preventing the occurrence of environmental hazards	Optimal and affordable ways to assess the working conditions of personnel, including microclimate, air pollution with medicinal dust and chemicals, lighting, ventilation, water supply, heating, noise, vibration. Occupational diseases and their prevention.	Assess working conditions. Use the legal acts regulating labor relations in the Russian Federation.	Ensure compliance with sanitary and hygienic rules, labor protection standards, safety regulations and labor legislation.

#### 4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1.	UC-8 <sup>UC-8.1</sup> GPC-3 <sup>GPC-3.3</sup>	Hygiene is the basis of preventive medicine	<p>1.1. Hygiene as the basis of preventive medicine, tasks and content of hygiene. The concept of primary and secondary prevention of diseases. Communication of hygiene with basic, specialized pharmaceutical and other disciplines. The history of the development of hygiene. The role of hygiene in the work of pharmacies. The concept of a healthy lifestyle and its significance for public health.</p> <p>1.2. Air hygiene Hygienic characteristics of the physical properties of air. Hygienic significance and influence on the body of solar radiation, temperature, humidity, air movement, atmospheric pressure, electrical state of the air. Hygienic assessment of the complex impact on the body of physical environmental factors. Hygiene of water and water supply of populated areas.</p> <p>1.3. The role of water in human life, the physiological and hygienic significance of water, the norms of its consumption. Water-borne diseases and their prophylaxis. Hygienic standardization and assessment of water quality.</p> <p>1.4. Hygienic basics of nutrition. Scientific foundations of healthy diet, norms of physiological needs for nutrients and energy, the importance of nutrients in ensuring the vital activity of the body, assessment of the nutritional status.</p> <p>1.5. Geochemical and toxicological significance of the soil.</p>

			Biogeochemical provinces and endemic diseases. Prevention of endemic diseases.
2.	UC-8 <sup>UC-8.2</sup> GPC-2 <sup>GPC-2.2</sup>	Pharmacy hygiene	1.1. Hygienic requirements for the layout, equipment and improvement of pharmacies: requirements for land, interior planning and decoration of premises, insulation, lighting, heating, ventilation, water supply and sewerage of pharmacies. 1.2. Sanitary regime of pharmacies. Hygienic requirements for the maintenance and cleaning of pharmacy premises, aseptic unit. Fundamentals of organizing and conducting disinfection. Hygienic and anti-epidemic measures to combat microbial contamination. 1.3. The influence of the labor process on the functional state of the body. Characteristics of the main occupational hazards. Biological risk factor of the working environment. Specific harmful factors (drug aerosols and dust), impact on health. Influence of psycho-emotional loading, forced working posture, tension of the visual analyzer on the performance and health status of pharmacy workers. The system of sanitary and hygienic measures to create favorable working conditions in pharmacies.

### 5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters
	volume in credit units (CU)	volume in academic hours (AH)	
			5
Classroom work, including	1,83	66	66
Lectures (L)	0,39	14	14
Laboratory practicum (LP)*	-	-	-
Practicals (P)	1,44	52	52
Seminars (S)	-	-	-
Student's individual work (SIW)	1,17	42	42
Mid-term assessment			
credit			
<b>TOTAL LABOR INTENSITY</b>	<b>3</b>	<b>108</b>	<b>108</b>

### 6. Content of the academic discipline

#### 6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
1.	Hygiene is the basis of preventive medicine	6	-	25	-	16	47
2.	Pharmacy hygiene	8	-	27	-	26	61
	<b>TOTAL</b>	<b>14</b>	<b>-</b>	<b>52</b>	<b>-</b>	<b>42</b>	<b>108</b>

\* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

#### 6.2. Thematic schedule of educational work types:

##### 6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH
		5 semester
1.	Hygiene is a branch of preventive medicine	2
2.	Climate and weather. Acclimatization to hot and cold climate.	2
3.	Physical factors of environment. Health effects.	2
4.	Good pharmacy practice	2

5.	Occupational health as a medical and social problem	2
6.	Nutrition as a factor of health	2
7.	Disturbances of nutritional status and alimentary diseases	2
	TOTAL (total – 14 AH)	14

6.2.2. The thematic plan of laboratory practicums isn't stipulated.

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH
		5 semester
1.	Physical qualities of air. Complex assessment of the microclimate in a pharmacy.	5
2.	Indoor air quality and human health. Hygienic assessment of the air-thermal regimen ensuring system in a pharmacy.	5
3.	Hygienic requirements of a good pharmacy practice.	5
4.	Hygienic assessment of illumination in a pharmacy. Biological importance of UV-radiation.	5
5.	Hygienic assessment of soil.	5
6.	Hygienic assessment of drinking water quality.	5
7.	Methods of improvement of the drinking water quality.	5
8.	Hygienic estimation of the occupational hazards. Prevention of occupational diseases.	5
9.	Hygienic estimation of real nutrition.	5
10.	Hygienic estimation of nutritional status.	5
	Final lesson	2
	TOTAL (total – 52 AH)	52

6.2.4. Thematic plan of seminars isn't stipulated.

6.2.5. Types and topics of student's individual work (SIW)

№	Types and topics of SIW	Volume in AH
		5 semester
1.	Reading a textbook, additional literature	5
2.	Working with lecture notes	3
3.	Working with dictionaries and reference books	3
4.	Working with regulatory documents	4
5.	Work with electronic educational resources, Internet	6
6.	Answers to questions (MCQ)	3
7.	Analytical text processing (abstracting)	4
8.	Solution of situational tasks	5
9.	Preparation of messages for the speech, abstracts, reports	4
10.	Working with a video recording of a lecture	5
	TOTAL (total – 42 AH)	42

## 7. Types of assessment formats for ongoing monitoring and mid-term assessment

№	Semester No.	Types of control		Name of section of academic discipline	Competence codes	Assessment formats		
						types	number of test questions	number of test task options
1.	5	Current monitoring	Control of mastering the topic	Hygiene is the basis of preventive medicine	UC-8 UC-8.1 GPC-3 GPC-3.3	MCQ Theoretical questions	20 2	not limited 10
			Monitoring the student's individual work			Situational tasks	1	15
2.	5	Current monitoring	Control of mastering the topic	Pharmacy hygiene	UC-8 UC-8.2 GPC-2 GPC-2.2	MCQ Theoretical questions	20 2	not limited 10
			Monitoring the student's individual work			Situational tasks	1	15
3.	5	Mid-term assessment	Credit	Hygiene is the basis of preventive medicine. Pharmacy hygiene.	UC-8 UC-8.1 UC-8 UC-8.2 GPC-3 GPC-3.3 GPC-2 GPC-2.2	MCQ Situational tasks	20 1	not limited 20

## 8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

### 8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1.	Educational and methodological textbook for practical classes on hygiene: tutorial / E.A.Shashina, V.V.Makarova. – M.: Geotar-Media, 2020. – 208 p.: il.	3	197
2.	Environmental health: tutorial / L.I.Aronova, E.N. Gus'kova, S.V. Plotnova, T.G. Shirokogorova . - NNSMA. - N. Novgorod : Publishing house NNSMA, 2017. - 102 p. - ISBN 9785703211861.	10	97 <a href="http://nbk.pimunn.net/ProtectedView/Book/ViewBook/2935">http://nbk.pimunn.net/ProtectedView/Book/ViewBook/2935</a>
3.	Hygiene of Healthcare Organizations : tutorial / V. S. Kaveshnikov, V.N. Serebryakova, L.P. Volkotrub, T.V.Andropova. - Tomsk: Publishing house SSMU, 2018. - 126 p.	-	URL: <a href="https://www.books-up.ru/ru/read/hygiene-of-healthcare-organizations-7652782/">https://www.books-up.ru/ru/read/hygiene-of-healthcare-organizations-7652782/</a>



## 8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1.	Pharmaceutical Ecology: textbook/ed. G.V.Ramenskaya. – Moskow: Geotar-Media, 2022. – 312 p.	3	10
2.	Basic environmental health: textbook / A.Yassi, T.Kjellstrom. – Oxford University Press, 2001. – 440 p.	1	3
3.	Food Hygiene : tutorial / U.A.Pfarger, V. S. Kaveshnikov, V.N. Serebryakova [et al.]. - Tomsk: Publishing house SSMU, 2018. - 132 p.	-	URL: <a href="https://www.books-up.ru/ru/read/food-hygiene-7637970/">https://www.books-up.ru/ru/read/food-hygiene-7637970/</a>
4.	Occupational and environmental health. Recognizing and preventing disease and injury / S. L. Baron, B. S. Levy, R. K. Sokas, D. H. Wegman. - 6th ed. - Oxford : Oxford University Press, 2011. - 854 p. : il. - ISBN 978-0-19-539788-8.	1	20

## 8.3. Electronic educational resources for teaching academic subjects

### 8.3.1. Internal Electronic Library System of the University (IELSU)

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
1.	Internal Electronic Library System of the University	Primary prophylaxis in children : A training manual / Bogomolova E.S., Ashina M.V., Badeeva T.V., Kiseleva A.S., Maksimenko E.O., - Nizhny Novgorod : Publishing House of Privolzhsky Research Medical University, 2021. – 88 p. – ISBN 978-5-7032-1390-2. – EDN WQXXEN	Access by individual login and password from any computer and mobile device	Not limited

### 8.3.2. Electronic educational resources acquired by the University

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
1.	Electronic Library "Student Consultant"	Textbooks and training manual for higher medical and pharmaceutical education	Access by individual login and password from any computer and mobile device	Not limited
2.	Database "Electronic Library System "Bookup"	Educational and scientific medical literature	Access by individual login and password. From university computers - access is automatic.	Not limited
3.	«Scientific Electronic Library eLIBRARY»	Electronic medical magazines	Access - from the computers of the university	Not limited

### 8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
	BooksMed.com	Medical online library. The site has	<a href="http://www.booksmed.com/gigi">http://www.booksmed.com/gigi</a>

( <a href="https://booksmed.com/gigiena">https://booksmed.com/gigiena</a> )	a collection of educational and practical medical literature. In the online library, it is possible to search for works alphabetically.	ena/62-obshhaya-gigiena-bolshakov-novikova.html
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## 9. Material and technical support for mastering an academic discipline

### 9.1. List of premises for classroom activities for the discipline

1. Lecture hall with multimedia equipment
2. Classroom for practical of food, air, soil and water hygiene, occupational (pharmacy) hygiene.
3. Laboratory for assessment of water, soil, food.

### 9.2. List of equipment for classroom activities for the discipline

Devices: water distiller, gas analyzer, Testo-415 air velocity and temperature meter, IVA-6A temperature and humidity meter, hair hygrometers, psychrometric VIT-2, August psychrometer, Assmann aspiration psychrometer, UG-2 universal gas analyzer, sets of indicator tubes, electric aspirator (model 822), AERA aspirator, liquid rheometers, Zaitsev, Polezhaev, Petri, Richter absorbers, filters, ashless paper, plastic cartridges, rubber tubes, sorption tubes, gas pipettes, sound level meter and vibrometer, cup anemometers, vane anemometers, aneroid barometer, recorders - thermograph, barograph, hygrograph, Argus-01 light meter, light meter - TKA-01 UV-meter, pH meter Ecotest 2000, Krotov's device, Petri dishes, scales, flasks, beakers, funnels, glass capillaries, pipettes, reagent kits, electric stoves, scales and sets of weights, tape measure, measuring tape, rulers. Computers, laptops, multimedia projectors, plasma TVs.

### 9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office	The Document	Freely distributed	

			Application	Foundation	software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN10030 LLC "Softline Trade" from 04.12.2020

Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation  
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of Hygiene

**CHANGE REGISTRATION SHEET**

working program for the academic discipline  
**GENERAL HYGIENE**

Field of study / specialty / scientific specialty: 33.05.01 PHARMACY  
(code, name)

Training profile: \_\_\_\_\_  
(name) - for master's degree programs

Mode of study: \_\_\_\_\_ FULL-TIME \_\_\_\_\_

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting  
Protocol No. \_\_\_\_\_ of \_\_\_\_\_ 20\_\_

Head of the Department,

Doctor of Medical Sciences

\_\_\_\_\_

E. S. Bogomolova

(signature)

\_\_\_\_\_ 20\_\_