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**Federal State Autonomous Educational Institution for Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
Institute of Medicine**

Educational Division - developer of the Higher Education Program)

COURSE SYLLABUS

HYGIENE

(Course title)

Recommended by the Didactic Council for the Education Field of:

31.05.01 General medicine

(Code and Title of the Higher Education Field)

The development of the subject is carried out as part of the Higher Education Program:

General medicine

(Specialisation of the Higher Education Program)

2024

1. COURSE GOALS

The subject "Hygiene" is included in the syllabus of "General Medicine" speciality in the Education Field 05.31.01 "General Medicine" and is studied in the 4, 5 semesters of the 2, 3 courses. The subject is implemented by the Department of Public Health, Healthcare and Hygiene. The subject consists of 8 sections and 32 topics and is aimed at studying the mechanisms the interaction of various environmental factors and the human body, as well as preventing the impact of adverse environmental factors on the human body.

The goal of the course "Hygiene" is to acquire theoretical knowledge of all modules of hygienic science, students to master the methodology of preventive medicine and gain practical skills in sanitation, the formation of preventive thinking among students, the acquisition of hygienic knowledge and skills to assess the impact of environmental factors on the health of the population.

2. LEARNING OUTCOMES

Mastering the subject "Hygiene" is aimed at developing the following competencies (parts of competencies):

Table 2.1. The list of competencies formed by students in the course of mastering the subject (the results of mastering the subject)

Code	Competence	Competence achievement indicators (within this subject)
GCC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	GCC-1.1. Analyzes scientific and technical literature and regulatory documentation of medical organizations. GCC-1.2. Critically evaluates the reliability of information sources, works with conflicting information from different sources. GCC-1.3. Understands trends, strategic objectives, problems in the field of healthcare, is oriented in legislative basis for developing strategies
GPC-11	Able to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	GPC-11.2. Able to apply scientific, research and production, design, organizational, managerial and regulatory documentation in the framework of his professional activities.
GPC-2	Able to conduct and monitor the effectiveness of preventive measures, the formation of a healthy lifestyle and sanitary and hygienic education of the population	GPC-2.1. Able to analyze the awareness of the population about a healthy lifestyle and medical literacy. GPC-2.2. Able to develop a plan of organizational and methodological measures aimed at increasing public awareness about a healthy lifestyle, its literacy in disease prevention. GPC-2.3. Able to prepare an oral presentation or printed text that promotes a healthy lifestyle and increases the literacy of the population in disease prevention.

Code	Competence	Competence achievement indicators (within this subject)
PC-5	Capable of carrying out and monitoring the effectiveness of measures to prevent and promote a healthy lifestyle and sanitary and hygienic education of the population	PC-5.6. Capable of monitoring compliance with preventive measures. PC- 5.10. Able to form healthy lifestyle programs, including programs to reduce alcohol and tobacco consumption, prevent and combat the non-medical use of narcotic drugs and psychotropic substances PC-5.11. Able to evaluate the effectiveness of preventive work with patients

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

Subject “Hygiene” refers to obligatory part of the 1 unit of the Higher Education Program.

As part of the Higher Education Program students also master other subjects and / or practices that contribute to the achievement of the planned results of mastering the subject "Hygiene".

Table 3.1. List of Higher Education Program components that contribute to expected learning outcomes

Competence code	Competence	Previous Disciplines/ Modules*	Subsequent Disciplines/ Modules*
GCC-1	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	Philosophy; Mathematics; Chemistry; Medical informatics; Bioorganic chemistry; Physics	Public health and healthcare, economics healthcare; Epidemiology; Propaedeutics of internal diseases; Evidence-based medicine; Clinical pharmacology; <i>Economy**</i> ;
GPC-2	Able to conduct and monitor the effectiveness of preventive measures, the formation of a healthy lifestyle and sanitary and hygienic education of the population		Outpatient therapy; Reproductive health;
GPC-11	Able to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	Latin language, Anatomy	Public health and healthcare, economics healthcare; Fundamentals of scientific research work; Evidence-based medicine; Medical criminology
PC-5	Capable of carrying out and monitoring the effectiveness of measures to prevent and promote a healthy lifestyle and	Organization of special care for the sick; <i>Introduction to Nutrition**</i> ;	General practice profile: medical assistant outpatient of outpatient institutions; General practice profile: medical assistant pediatrician; Outpatient therapy;

Competence code	Competence	Previous Disciplines/ Modules*	Subsequent Disciplines/ Modules*
	sanitary and hygienic education of the population	<i>Fundamentals of psychophysiology**</i>	Pediatrics; Obstetrics and gynecology; Propaedeutics of internal diseases; Reproductive health; Urology; Clinical dentistry; Endoscopic urology; Epidemiology; Infectious diseases; Phthisiology; <i>Outpatient cardiology**</i> ; Ophthalmology; Dermatovenerology; Neurology, medical genetics, neurosurgery; Endocrinology; <i>Basics of nutrition childhood**</i> ; Occupational diseases

* - filled in in accordance with the matrix of competencies

** - elective subjects/practices

4. LEARNING ACTIVITIES

The course total workload of the subject "Hygiene" is equal to 7 credits.

Table 4.1. Types of academic activities during the period of the HE Program mastering

Types of academic activities	IN ALL, ac.h.	Semester(s)			
		4	5		
<i>Contact academic hours</i>	162	90	72		
including:					
Lectures	18	18	0		
Lab works	144	72	72		
Workshops	0	0	0		
<i>Self-study, academic hours</i>	36	18	18		
<i>Evaluation and assessment, academic hours</i>	18	0	18		
Course workload	Academic hours	216	144	108	
	Credits	6	3	3	

5. COURSE MODULES AND CONTENTS

Table 5.1. Course modules and contents according to type of academic activity

Course Modules	Module Contents	Type of academic activity*
Module 1. Theoretical and methodological foundations of the discipline "Hygiene". Public Health and the Environment.	Topic 1.1. Hygiene as a science and subject of teaching; sanitation; organization, forms and stages of state sanitary and anti-epidemic supervision. Hygienic regulation. Sanitary legislation. Methodology of hygienic regulation. Types of standards. Problems of rationing of jointly acting factors.	Lecture, Lab work

Course Modules	Module Contents	Type of academic activity*
Module 2. Hygiene of nutrition	Topic 2.1 Rational nutrition. Hygienic nutritional standards for different population groups.	Lab work
	Topic 2.2 Dietary and medical-preventive nutrition. The principles of diets and rations.	Lab work
	Topic 2.3 Sanitary and hygienic expertise of products and assessment of food quality category. Sanitary and hygienic expertise of meat. Sanitary and hygienic expertise of fish.	Lab work
	Topic 2.4 Sanitary and hygienic expertise of milk and dairy products	Lab work
	Topic 2.5 Nutritional and biological value and signs of spoilage of vegetable products (bread).	Lab work
	Topic 2.6 Preservation methods and assessment of canned food quality.	Lab work
	Topic 2.7 Food poisoning: classification, clinic, methods of prevention.	Lecture, Lab work
	Topic 2.8 Hygiene requirements for public catering enterprises. The principle of flow of raw materials and products. Personal hygiene and medical control of the staff.	Lab work
Module 3. Hygiene of populated areas	Topic 3.1 Hygiene of human settlements and dwellings. Sanitary and hygienic assessment of the rural homestead project.	Lab work
	Topic 3.2 Sanitary and hygienic expertise of microclimate of residential and industrial premises. Climate and acclimatisation. Sanitary and hygienic assessment of the microclimate of the classroom.	Lecture, Lab work
	Topic 3.3 Hygiene of the air. The chemical composition of atmospheric air and its hygienic significance. Atmospheric and indoor air pollution. Prevention of urban air pollution. Determination and sanitary-hygienic estimation of the carbon dioxide content in the premises. Assessment of the dustiness and microbial pollution of the air.	Lecture, Lab work
	Topic 3.4 Solar radiation and its hygienic significance. Hygiene requirements for insolation and lighting of the premises. Determination and sanitary-hygienic assessment of natural and artificial lighting of the premises.	Lecture, Lab work
Module 4. Radiation hygiene	Topic 4.1 Radiometry. Radioactivity, natural radiation background. Sanitary and hygienic assessment of contamination of water, bread, washouts.	Lab work
	Topic 4.2 Dosimetry. Doses of ionizing radiation (exposure, absorption, equivalent). Biological effects and standards of exposure of different categories of population.	Lab work

Course Modules	Module Contents	Type of academic activity*
	Topic 4.3 Protection against external ionising radiation (principles and calculation). Equipment rules for industrial premises. Use of protective equipment against sources of ionizing radiation.	Lab work
Module 5. Communal hygiene	Topic 5.1 Hygiene of water and water supply of populated areas. Significance of water for public health. Surface and underground water sources. Waterworks. Disinfection of wells and kaptazhy. Water supply systems. Sanitary and hygienic requirements for potable water. Organoleptic assessment of water.	Lecture, Lab work
	Tema 5.2 Self-purification of water reservoirs. Zone of sanitary protection of water supply sources. Water consumption. Scheme of household and potable water supply. Sanitary and hygienic requirements for potable water - indicators of organic water pollution, generalized, microbiological indicators, MPC of chemicals, radiation safety of potable water.	Lecture, Lab work
	Topic 5.3 Methods for cleaning, disinfecting and improving the quality of potable water with a centralized water supply system. Methods, comparison of their effectiveness and scope.	Lecture, Lab work
	Topic 5.4 Organization of water supply and sewerage in a large metropolis (Moscow).	Lab work
	Topic 5.5 Soil hygiene in populated areas. Epidemiological, sanitary and chemical significance of the soil. Biogeochemical provinces. endemic diseases. Hygienic assessment of soil quality.	Lecture, Lab work
	Topic 5.6 Sanitary cleaning of populated areas. Cleaning systems, methods of neutralization and disposal of solid and liquid waste.	Lecture, Lab work
Module 6. Occupational hygiene	Topic 6.1 Occupational health, occupational hazards. Occupational diseases of workers. Harmful factors of the working environment and labor organization. Physiological bases of the labor process.	Lecture, Lab work
	Topic 6.2 Chemical environmental factors and their impact on the health of workers. Fundamentals, principles of hygienic regulation in industrial toxicology.	Lecture, Lab work
	Topic 6.3 Physical environmental factors (noise, ultra- and infrasound, laser and electromagnetic radiation) and their hygienic regulation. Classification of dust, its effect on the body. Classification of pneumoconiosis. Prevention.	Lecture, Lab work
	Topic 6.4 Physical environmental factors (vibration, microclimate). Hygienic regulation.	Lecture, Lab work

Course Modules	Module Contents	Type of academic activity*
	Hygienic assessment of ventilation of industrial premises.	
Module 7. Hygiene of children and adolescents	Topic 7.1 Hygiene of children and adolescents. Assessment of physical development (biological age). Health groups of children and adolescents.	Lecture, Lab work
	Topic 7.2 Assessment of physical development (methods for assessing individual and group physical development).	Lecture, Lab work
	Topic 7.3 Hygienic requirements for children's preschool educational institutions. Hardening methods.	Lecture, Lab work
	Topic 7.4 Hygienic requirements for school educational institutions. Sanitary and hygienic requirements for lighting, teaching aids, furniture and working hours of school educational institutions.	Lecture, Lab work
Module 8. Hygiene of Medical Treatment-prophylactic Facilities	Topic 8.1 Hospital hygiene. Hygienic principles of organization of work and planning of hospitals, features of structural and planning solutions. Requirements for the placement of hospitals, admission department. Prevention of nosocomial infections.	Lecture, Lab work
	Topic 8.2 Hospital hygiene. Hygiene requirements for hospital departments.	Lecture, Lab work

* - filled out only for **IN-HOUSE** education: *lectures; Lab work – laboratory works; seminars.*

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom Equipment and Technology Support Requirements

Classroom for Academic Activity Type	Equipping the classroom	Specialized educational/laboratory equipment, Software and materials for mastering the subject (if necessary)
Classroom for lectures	Audience for lectures, equipped a set of specialized furniture; board (screen) and technical through multimedia presentations.	
Classroom for Academic Activity	Classroom for laboratory works, group and individual classes and consultations. current control and intermediate certifications, equipped with a set of specialized furniture and equipment.	Laptop ASUS F9E Core 2 DUO T5750, multimedia installation, whiteboard, fume hood, device for bacteriological air analysis. aspirator for air sampling. Information and demonstration stands: Industrial ventilation, Facilities for cleaning emissions into the atmospheric air, Indicators of natural light, Hygienic requirements for the microclimate of premises,

Classroom for Academic Activity Type	Equipping the classroom	Specialized educational/laboratory equipment, Software and materials for mastering the subject (if necessary)
		Classification of pneumoconiosis, Areas of wards in different departments of hospitals
Classroom for Academic Activity	Classroom for laboratory works, group and individual classes and consultations. current control and intermediate certifications, equipped with a set of specialized furniture and equipment.	Laptop ASUS F9E Core 2 DUO T5750, multimedia installation, whiteboard, electric round drying cabinet, laboratory water bath, electric drying cabinet, titration unit. Information and demonstration stands: Sources of local water supply, Contact clarifier. Signs of fresh milk, Chemical composition and calorie content of leguminous products, Methods of food preservation, Classification of food poisoning, Sanitary examination of meat based on physical and chemical studies, Sanitary examination of meat and fish based on organoleptic properties
Classroom for Academic Activity	Classroom for laboratory works, group and individual classes and consultations. current control and intermediate certifications, equipped with a set of specialized furniture and equipment.	Laptop ASUS F9E Core 2 DUO T5750, multimedia installation, whiteboard, universal beta-gamma intensity meter Luch - A, a set of individual dosimeters type KID - 2. Information and demonstration stands: Periodic table of chemical elements, demonstration bag for collection of class "A" household waste and demonstration sample of the bag for collection of class "B" hazardous waste in medical institutions
Self-studies Classroom	Classroom for self-studies of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to Electronic information and educational environment.	A set of specialized furniture; technical means: multimedia projector EPSONE B-965, Laptop ASUSF9ECore 2 DUOT5750, stable wireless Internet connection.

* - classroom for self-learning activity **must be indicated!**

7. RECOMMENDED SOURCES FOR COURSE STUDIES

Main reading:

1. Hygiene: textbook / O.V. Mitrokhin, V.I. Arkhangel'sky, E.V. Belova et al. Under the editorship of O.V. Mitrokhina. Electronic text data. Moscow, GEOTAR-Media, 2022; 368. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=508319&idb=0
2. Maksimenko LV, Drozhzhina NA, Piven EA. Edited by A.V. Fomina. General hygiene: textbook: in 4 books. Book 3: Occupational health. Moscow, RUDN University, 2022; 177. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=509802&idb=0
3. Drozhzhina NA, Maksimenko LV, Piven EA. Under the editorship of Professor Fomina AV. Tutorial. General hygiene. Book 2: Food hygiene. Moscow, RUDN University, 2019; 199. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=479038&idb=0
4. E.A. Piven, Alhejoy Hasan Mohammad Hasan, Al-Sharida Zina Azzam Abdulwahhab, N.P. Piven. Fundamentals of Industrial Toxicology: textbook. Electronic text data. Moscow, RUDN University, 2023; 91. The book is in Russian and English. URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=515658&idb=0
5. Maksimenko LV, Drozhzhina NA, Piven EA, Tadzhiyeva AV, Efimushkina AS, Orlova AM, Gres SN. Under the editorship of Professor Fomina AV. Hygiene: lecture notes for students studying in the specialty "Medicine": textbook: in 2 parts. Moscow, RUDN University, 2020-2021. Part I 2020; 109. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=493544&idb=0
6. Drozhzhina NA, Maksimenko LV, Piven EA, Tadzhiyeva AV, Efimushkina AS, Orlova AM, Gres SN. Under the editorship of Professor Fomina AV. Hygiene: lecture notes for students studying in the specialty "Medicine": textbook: in 2 hours / ed. prof. AV Fomina. Moscow, RUDN University, 2020-2021. Part II 2021; 105. (*in Russ*)
7. AV Fomina, LV Maksimenko, AM Orlova et al. Recommendations for the preparation of course work in "Hygiene": teaching aid. Moscow, RUDN University, 2023; 46. (*in Russ*)

Additional reading:

1. Drozhzhina NA, Maksimenko LV, Piven EA. Under the editorship of Professor Fomina AV. Tutorial. General Hygiene. Book 1: Communal Hygiene. Moscow, RUDN University, 2018; 224. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=468636&idb=0
2. Piven E.A., Maksimenko L.V., Tadzhiyeva A.V., Drozhzhina N.A. Hygiene: lecture notes: in 2 parts. Part 2. Moscow, RUDN University, 2015;60. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=491601&idb=0
3. Tadzhiyeva A.V., Maksimenko L.V., Piven E.A., Drozhzhina N.A. Hygiene: lecture notes: in 2 parts. Part 1. Moscow, RUDN University, 2016; 68. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=491600&idb=0
4. Piven EA, Fomina AV, Konovalov OE, Maksimenko LV. Hygiene of children and adolescents: a teaching aid for preparation. Moscow, RUDN University, 2014;65. (*in Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=433148&idb=0
5. Rummyantsev Gennady Ivanovich. Hygiene: textbook for universities. G.I. Rummyantsev, N.I. Prokhorov; Under general editorship of G.I.Rummyantsev. 2nd edited, revised and added. Moscow, GEOTAR- Media, 2009; 608. (*In Russ*)
6. Bolshakov A.M. General hygiene: textbook. 3rd edited, revised. and added. Moscow, GEOTAR-Media, 2016; - 432. (*In Russ*) URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=475648&idb=0
7. Maksimenko L.V., Kicha D.I., Fomina A.V., Ozerov D.S. Accelerated hygienic regulation: modern approaches: educational methodological manual. Electronic text data. Moscow, RUDN, 2023; 48. URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=510001&idb=0

Internet-based sources:

1. Electronic libraries with access for RUDN students:

- Electronic library of RUDN <http://lib.rudn.ru/MegaPro/Web>
- Electronic libraries « University Online Library» <http://www.biblioclub.ru>
- Electronic library Yurayt <http://www.biblio-online.ru>
- Electronic library «Student advisor» www.studentlibrary.ru
- Electronic library «Troitskiy most»

2. Databases and search engines:

- Electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine <https://www.yandex.ru/>
- Google search engine <https://www.google.ru/>
- SCOPUS database <http://www.elsevierscience.ru/products/scopus/>

Learning toolkits for self-studies:*

1. A course of lectures on the subject "Hygiene".

* - all learning toolkits for self-studies are based in accordance with the current procedure on the page of the subject in **RUDN LMS TUIS** <https://esystem.rudn.ru/course/view.php?id=512>

8. ASSESSMENT AND GRADING CRITERIA OF THE LEVEL OF COMPETENCES' FORMATION IN SUBJECT

Assessment and Grading criteria of the level of competences' formation (parts of competencies) in subject "Hygiene" are presented in the Appendix to this Course Syllabus.

* - Assessment and Grading criteria are formed according to the requirements of the relevant local normative act of RUDN University.

DEVELOPERS

Associate Professor of Public
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Zastrozhina AK

Position, Department

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