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Federal State Autonomous Educational Institution of Higher Education

PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA

RUDN University

Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Hygiene

course title

Recommended by the Didactic Council for the Education Field of:

31.05.01 General Medicine

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

General Medicine

higher education programme profile/specialisation title

2022-2023

1. COURSE GOAL(s)

The goal of the course "Hygiene" is to equip students with the 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. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) "Hygiene" is aimed at the development of the following competences /competences in part: GCC-1.1; GCC-1.2; GPC-2.1; GPC-2.2; GPC-2.3; GPC-11.2; PC-5.6; PC-5.10; PC-5.11.

Table 2.1. List of competences that students acquire through the course study

Competence code	Competence descriptor	Competence formation indicators (within this course)
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.
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.
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.
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

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GCC-1: GCC-1.1; GCC-1.2	Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	Philosophy. Physics. Biochemistry. Anatomy.	Immunology. Public health and Health care, Health economics. Epidemiology. Neurology, Medical genetics, Neurosurgery. Hospital therapy. Endocrinology. Infectious diseases. Phthisiology. Medical elementology. Allergology.
GPC-2: 2.1; 2.2; 2.3	Able to conduct and monitor the effectiveness of preventive measures, the formation of a healthy lifestyle and sanitary and hygienic education of the population	Biochemistry. Biology.	Polyclinic therapy. Obstetrics and Gynecology.
GPC-11: 11.2	Able to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	Physics.	Public health and health care, Health economics. Pharmacology.
PC-5: PC-5.6; PC-5.10; PC-5.11	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	Psychology and pedagogy.	Propaedeutics of internal diseases. Introduction to nutrition. Immunology. Epidemiology. Infectious diseases. Polyclinic therapy. Children's surgery. Hospital surgery. Pediatrics. Ambulatory cardiology. Allergology. Phthisiology. Practice of obstetrics and Gynecology: assistant gynecologist. Practice of a general medical profile: assistant doctor of an outpatient clinic. Practice of Obstetrics and Gynecology: assistant obstetrician.

* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course "Hygiene" is 7 credits (252 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (full-time training)**

Type of academic activities		Total academic hours	Semesters/training modules			
			4	5		
<i>Contact academic hours</i>		162	90	72		
including:						
Lectures (LC)		18	18			
Lab work (LW)		144	72	72		
Seminars (workshops/tutorials) (S)						
<i>Self-studies</i>		63	36	27		
<i>Evaluation and assessment (exam/passing/failing grade)</i>		27	18	9		
Course workload	academic hours_	252	144	108		
	credits	7	4	3		

* To be filled in regarding the higher education programme correspondence training mode.

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Module 1. Theoretical and methodological foundations of the discipline "Hygiene". Public Health and the Environment.	Topic 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.	LC , LW
Module 2. Hygiene of nutrition	Topic 1. Rational nutrition. Hygienic nutritional standards for different population groups.	LW
	Topic 2. Dietary and medical-preventive nutrition. The principles of diets and rations.	LW
	Topic 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.	LW
	Topic 4. Sanitary and hygienic expertise of products of milk.	LW
	Topic 5. Nutritional and biological value and signs of spoilage of vegetable products (bread).	LW
	Topic 6. Preservation methods and assessment of canned food quality.	LW
	Topic 7. Food poisoning: classification, clinic, methods of prevention.	LC , LW
	Topic 8. Hygiene requirements for public catering enterprises. The principle of flow of raw materials and products. Personal hygiene and medical control of the staff.	LW
Module 3. Hygiene of populated areas	Topic 1. Hygiene of human settlements and dwellings. Sanitary and hygienic assessment of the	LW

	rural homestead project.	
	Topic 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.	LC , LW
	Topic 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.	LC , LW
	Topic 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.	LC , LW
Module 4. Radiation hygiene	Topic 1. Radiometry. Radioactivity, natural radiation background. Sanitary and hygienic assessment of contamination of water, bread, washouts.	LW
	Topic 2. Dosimetry. Doses of ionizing radiation (exposure, absorption, equivalent). Biological effects and standarts of exposure of different categories of population.	LW
	Topic 3. Protection against external ionising radiation (principles and calculation). Equipment rules for industrial premises. Use of protective equipment against sources of ionizing radiation.	LW
Module 5. Communal hygiene	Topic 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.	LC , LW
	Tema 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.	LC , LW
	Topic 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.	LC , LW
	Topic 4. Organization of water supply and sewerage in a large metropolis (Moscow).	LW
	Topic 5. Soil hygiene in populated areas. Epidemiological, sanitary and chemical significance of the soil. Biogeochemical provinces. endemic diseases. Hygienic assessment of soil quality.	LC , LW
	Topic 6. Sanitary cleaning of populated areas. Cleaning systems, methods of neutralization and disposal of solid and liquid waste.	LC , LW
Module 6. Occupational hygiene	Topic 1. Occupational health, occupational hazards. Occupational diseases of workers. Harmful factors of	LC , LW

	the working environment and labor organization. Physiological bases of the labor process.	
	Topic 2. Chemical environmental factors and their impact on the health of workers. Fundamentals, principles of hygienic regulation in industrial toxicology.	LC , LW
	Topic 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.	LC , LW
	Topic 4. Physical environmental factors (vibration, microclimate). Hygienic regulation. Hygienic assessment of ventilation of industrial premises.	LC , LW
Module 7. Hygiene of children and adolescents	Topic 1. Hygiene of children and adolescents. Assessment of physical development (biological age). Health groups of children and adolescents.	LC , LW
	Topic 2. Assessment of physical development (methods for assessing individual and group physical development).	LC , LW
	Topic 3. Hygienic requirements for children's preschool educational institutions. Hardening methods.	LC , LW
	Topic 4. Hygienic requirements for school educational institutions. Sanitary and hygienic requirements for lighting, teaching aids, furniture and working hours of school educational institutions.	LC , LW
Module 8. Hygiene of Medical Treatment-prophylactic Facilities	Topic 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.	LC , LW
	Topic 2. Hospital hygiene. Hygiene requirements for hospital departments.	LC , LW

* - to be filled in only for **full**-time training; LC - lectures; LW - lab work; S - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	Classroom for laboratory works, group and individual classes and consultations, equipped with a set of laboratory and classroom furniture and technical means for multimedia presentations, Wi-Fi, Internet access <i>10/2 Miklukho-Maklaya street, Moscow, classroom 362</i>	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

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
		of natural light, Hygienic requirements for the microclimate of premises, Classification of pneumoconiosis, Areas of wards in different departments of hospitals
Lab work	Classroom for laboratory works, group and individual classes and consultations, equipped with a set of laboratory and classroom furniture and technical means for multimedia presentations, Wi-Fi, Internet access <i>10/2 Miklukho-Maklaya street, Moscow, classroom 439</i>	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
Seminar	Classroom for laboratory works, group and individual classes and consultations, equipped with a set of laboratory and classroom furniture and technical means for multimedia presentations, Wi-Fi, Internet access <i>10/2 Miklukho-Maklaya street, Moscow, classroom 533</i>	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 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. <i>10/2 Miklukho-Maklaya street, Moscow, classroom 372 (afternoon)</i>	A set of specialized furniture; technical means: multimedia projector EPSONE B-965, Laptop ASUSF9ECore 2 DUOT5750, 9 sets of computer + system unit, stable wireless Internet connection. Software: Microsoft Windows, MS Office/ Office 365, Teams

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

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)*
2. 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)*
3. Maksimenko LV, Drozhzhina NA, Piven EA, Tadzhiyeva AV, Efimushkina AS, Orlova AM, Gres SN. Hygiene: lecture notes for students studying in the specialty "General Medicine": textbook: in 2 parts. Under the editorship of Professor AV Fomina. Moscow, RUDN University, 2020-2021. Part I 2020; 109. *(in Russ)*
4. Drozhzhina NA, Maksimenko LV, Piven EA, Tadzhiyeva AV, Efimushkina AS, Orlova AM, Gres SN. Hygiene: lectures for students of the specialty "General Medicine": textbook: in 2 parts. Under the editorship of Professor AV Fomina. Moscow, RUDN University, 2020-2021. Part II 2021; 105 *(in Russ)*
5. Piven EA, Maksimenko LV, Drozhzhina NA. Workshop for laboratory works in General Hygiene: a textbook for students of the specialty "General Medicine". Under the editorship of D. Pharm. Sc. AV Fomina. Moscow, RUDN University, 2013; 256. *(in Russ)*
6. Tadzhiyeva AV, Maksimenko LV, Piven EA, Drozhzhina NA. Hygiene: lectures: in 2 parts, Part 1. Moscow, RUDN University, 2015; 65. *(in Russ)*
7. Piven EA, Maksimenko LV, Tadzhiyeva AV, Drozhzhina NA. Hygiene: lectures: in 2 parts, Part 2. Moscow, RUDN University, 2015; 60. *(in Russ)*
8. Piven EA, Fomina AV, Konovalov OE, Maksimenko LV. Hygiene of children and adolescents: a tutorial for preparation. Moscow, RUDN University, 2014; 65. *(in Russ)*

Electronic full-text sources

1. Hygiene [Electronic source]: Textbook for universities. Under the editorship of Melnichenko PI. Electronic text source. Moscow, GEOTAR-Media, 2014; 656. System requirements: Windows XP and upward. ISBN 978-5-9704-3083-5. *(in Russ)*
2. Hygiene of children and adolescents [Text / electronic resource]: Tutorial. Piven EA et al. Electronic text source. Moscow, Publishing House of RUDN University, 2014; 65. ISBN 978-5-209-06178-6: 40.56. *(in Russ)*
3. Human Hygiene and Ecology [Electronic source]: Textbook for universities. Arkhangelsky VI, Kirillov VF. Electronic text source. Moscow, GEOTAR-Media, 2014; 176. System requirements: Windows XP and upward. ISBN 978-5-9704-3099-6. *(in Russ)*
4. Communal Hygiene [Electronic source]: Textbook for universities. Under the editorship of Mazaeva VT. Electronic text source. Moscow, GEOTAR-Media, 2014; 704. System requirements: Windows XP and upward. ISBN 978-5-9704-3021-7. *(in Russ)*
5. Piven Elena Anatolyevna. Theoretical issues of Hygiene [Text / electronic source]: Tutorial for preparation for the state exam in Public health and Health care, Hygiene. Piven EA, Drozhzhina NA. Electronic text source. Moscow, Publishing House of RUDN University, 2014; 67. ISBN 978-5-209-05939-4: 40.84. *(in Russ)*
6. Drozhzhina Natalia Agafonovna. Hygienic assessment of medical equipment. Physical health hazards to medical staff. [Text / electronic source]: Tutorial. Drozhzhina NA, Maksimenko LV. Under the editorship of Fomina AV. Electronic text source. Moscow, Publishing House of RUDN University, 2012; 71. ISBN 978-5-209-04498-7: 34.82. *(in Russ)*

Additional reading:

1. General hygiene: Educational and methodological recommendations for preparation for the exam for students of the dental realm. Maksimenko LV, Gurova AI. Moscow, IPK RUDN University, 2007; 50.
2. Occupational Pathology of teeth and oral cavity: Educational and methodological tutorial for students of dental faculties. Kicha DI [Gurova AI, Maksimenko LV]. Moscow, IPK RUDN University, 2001; 59.
3. Hygienic foundations of a healthy lifestyle: Textbook. Kicha DI et al. Moscow, IPK RUDN, 2003; 93.
4. Drozhzhina Natalya Agafonovna. Guide to laboratory works in General Hygiene: Textbook for students of the specialty "Pharmacy". Drozhzhina NA, Fomina AV. Under the editorship of Kicha DI.

Moscow, IPK RUDN, 2006; 187.

5. Maksimenko LV, Gurova AI. Food and environmental Hygiene. Textbook for students of dental realm. Moscow, RUDN, 2004.

6. General Hygiene with the basics of Human Ecology: Textbook. Lakshin AM, Kataev VA. Moscow, Medicine, 2004.

7. Hygiene and fundamentals of Human Ecology: A textbook for students. University. Pivovarov YuP, Korolik VV, Zinevich LS. Under the editorship of Pivovarov YuP. Moscow, Ed. Center "Academy", 2004.

8. Mazaev VT, Korolev AA, Shlepnikova TG. Communal Hygiene: Textbook. Under the editorship of Mazaev VT. Moscow, GEOTAR-MED, 2006.

9. Piven EA, Drozhzhina NA, Maksimenko LV, Breusov AV. Under the editorship of D. Pharm. Sc. Fomina AV. Guide to laboratory works in the Hygiene of children and adolescents and the Hygiene of medical institutions with the basics of Public health and Health care. Book 4. Moscow, RUDN University, 2012;203.

10. Maksimenko LV, Drozhzhina NA, Piven EA. Guide to laboratory works in Occupational Hygiene: a textbook for students of the specialty "General Medicine". Book 3. Under the editorship of Professor Kicha DI. Moscow, RUDN University, 2011; 193.

11. Drozhzhina NA, Gurova AI, Maksimenko LV, Piven EA. Guide to laboratory works in Nutritional Hygiene: Tutorial for students of the specialty " General Medicine". Book 2. Moscow, RUDN University, 2009; 173.

12. Drozhzhina NA, Maksimenko LV, Piven EA, Tadzhieva AV. Tutorial for lectures in Hygiene. Part 1. Moscow, RUDN University, 2012; 62.

13. Drozhzhina NA, Maksimenko LV, Piven EA, Tadzhieva AV. Tutorial for lectures in Hygiene. Moscow, RUDN University, 2013; 54.

14. Hygiene: Textbook, Second edition, Revised and addit. Under the editorship of Academician of the Russian Academy of Sciences Rummyantsev GI. Moscow, GEOTAR-MED, 2001;608.

15. Piven EA, Drozhzhina NA. Theoretical issues of Hygiene: a tutorial for preparing for the state exam in Public health and Health care, Hygiene. Moscow, RUDN University, 2014; 67.

Electronic full-text sources

1. Maksimenko Lyudmila Vitalievna. Workshop on General Hygiene, Sanology and Ecology [Text / electronic source]: Textbook. Maksimenko LV. Under the editorship of Kicha DI. Moscow, Publishing House of RUDN University, 2009; 160. ISBN 978-5-209-02999-1: 120.00. (*in Russ*)

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 «Lan'» <http://e.lanbook.com/>
- 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/>

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course “Hygiene”
2. The laboratory workshop (if any).on the course “Hygiene”
3. The guidelines for writing a course paper / project (if any) on the course “Hygiene”.
4.

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS’ COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (GCC-1.1; GCC-1.2; GPC-2.1; GPC-2.2; GPC-2.3; GPC-11.2; PC-5.6; PC-5.10; PC-5.11) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

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