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Khanty-Mansiysk Autonomous Okrug-Ugra  
 «Surgut State University»

Approved by  
 Deputy Rector for Academic Affairs

\_\_\_\_\_ E.V. Konovalova

13 June 2024г., Record No 5

# Hygiene

## Syllabus

Department **Morphology and physiology**  
 Curriculum s310501-ЛечДеЛоИн-23-2.plx  
 Specialty 31.05.01 General Medicine  
 Qualification **General Practitioner**  
 Form of education **Full-time**  
 Total (in credits) **5**

Total academic hours 180  
 including:  
 Classes 128  
 Self-study 16  
 Control 36

Control:  
 4<sup>th</sup> term-credit with an assessment  
 5<sup>th</sup> term-exam

### Course outline in terms

Academic year (Term)	4 (2.2)		5 (3.1)		Total	
	Weeks	20 1/6	17 2/6			
Types of classes	Cur	Syl	Cur	Syl	Cur	Syl
Lectures	16	16	16	16	32	32
Practical	48	48	48	48	96	96
Classes total	64	64	64	64	128	128
Contact training	64	64	64	64	128	128
Self-study	8	8	8	8	16	16
Control			36	36	36	36
Total	72	72	108	108	180	180

The Syllabus is compiled by:

*PhD in Medical Sciences (Medicine), Associate Professor Pavlovskaya V.S., lecturer Maksimova A.*

The Syllabus

**Hygiene**

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on August, 12, 2020. №988)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, «13» June 2024 Record No 5.

The Syllabus was approved by the department

**Morphology and physiology**

Head of Department, Doctor of Medicine, Professor Stolyarov V.V.

1. COURSE OBJECTIVES	
1.1	Elaboration of conscious understanding among students of higher medical schools that human health strongly depends on the environment, living conditions, work activities, etc. This is a necessary prerequisite for their active participation in carrying out scientifically-based and effective therapeutic measures, preventing diseases and promoting a healthy lifestyle.
1.2	To elaborate understanding that it is necessary to consider human health as a category that is formed under the influence of a complex interconnected spectrum of natural, anthropogenic and social factors.
1.3	To provide students with information for mastering the methodology of preventive medicine
1.4	To master hygienic knowledge and skills to assess the impact of environmental factors on human health and population
1.5	To prevent diseases among the population through preventive and anti-epidemic measures
1.6	To train patients to follow basic hygiene measures to prevent diseases and promote health
1.7	To provide favorable conditions for patients' staying and medical personnel working in medical organizations
1.8	To form motivation among the population, patients and their family members aimed at preserving and promotion their health

2. COURSE OVERVIEW	
Course code (in curriculum)	Б1.О.04
<b>2.1 Assumed background:</b>	
2.1.1	Biology
2.1.2	Physics
2.1.3	Mathematics
2.1.4	Chemistry
2.1.5	Medical Informatics
<b>2.2 Post-requisite courses and practice:</b>	
2.2.1	Biochemistry
2.2.2	Epidemiology
2.2.3	Adaptive and Age Physiology
2.2.4	Human Physiology

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)
GPC-2.2 Knows the strategy of the state in the field of promoting a healthy lifestyle (Order of the Ministry of Health of the Russian Federation No. 8 of 01/15/2020) in the prevention of non-communicable diseases, the formation of a healthy lifestyle, sanitary and hygienic education of the population
GPC -2.3: Demonstrates knowledge in implementing a set of measures aimed at preserving and strengthening health, including the formation of a healthy lifestyle, preventing the occurrence (or) spread of diseases, their early diagnosis, identifying the causes of their occurrence and development, as well as aimed at eliminating the harmful effects on health. human health environmental factors

**By the end of the course students must:**

3.1 know:	
3.1.1	-Possibilities to use methods of analysis and synthesis of the results obtained, their interpretation in various professional situations
3.1.2	-Possibilities for self-development, self-education and self-realization in the educational process
3.1.3	-Forming a healthy lifestyle and its hygiene basics
3.1.4	-Prevention of emergence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their emergence and development
3.1.5	-Harmful effect on human health of environmental factors
3.1.6	-Fundamentals of the human interaction with the environment, the role of hygiene in the scientific development of the problem of health promotion, increasing labour efficiency, prolonging the active life, the essence of primary and secondary prevention
3.1.7	-Hygienic characteristics of various environmental factors, the mechanisms of their effects and diagnostically significant forms of manifestation of effects at the pre-nosological level
3.1.8	-The basics of evidence-based medicine in establishing causal relationships between changes in health state and influence of environmental factors
3.1.9	-Hygiene measures for prevention of hospital-acquired infections and optimization of the conditions of inpatient care

<b>3.2</b>	<b>be able to:</b>
3.2.1	-Use abstract thinking, analysis and synthesis methods in solving problems
3.2.2	-Use creativity in preparing business games
3.2.3	-Work independently with educational, scientific, normative and reference literature, to conduct a search, to turn the obtained data into a means for solving professional tasks
3.2.4	-Identify causes and conditions of emergence and spread of diseases
3.2.5	-Develop a set of measures aimed at eliminating the harmful influence of environmental factors, preserving and promoting health
3.2.6	-Assess the likelihood (identify and characterize the danger) of adverse effects of natural, social and anthropogenic environmental factors in the specific conditions of human activity
3.2.7	-Justify the need for adequate treatment and preventive measures according to the hygienic characteristics of working conditions and early changes in health and efficiency, as well as in case of occupational poisoning (occupational diseases)
3.2.8	-Make recommendations for water, air, sun quenching and adaptation to adverse climatic and geographical factors while working, traveling, leisure activities, residence changing

#### 4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

Class Code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Notes
	<b>Module 1. Health and environment</b>					
1.1	The content and objectives of Hygiene. Hygienics as a complex of medical knowledge, history of Hygiene. Methodology /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.2	Water and public health /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.3	Climate and health. Prevention of diseases associated with the impact of adverse weather conditions. Problems of adaptation and acclimatization. Principles of hygienic regulation /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.4	Microclimate of indoor premises. Air physical properties. Hygiene requirements for ventilation and heating /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.5	The main indicators of natural lighting. Hygienic requirements for artificial lighting /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.6	Hygienic assessment of drinking water and water sources /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.7	Methods to improve the quality of drinking water. Endemic diseases. Sanitary protection of reservoirs /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.8	Soil hygiene and sanitary cleaning of populated areas /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.9	Hygienic problems of cities. Hygiene of residential and public buildings /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
1.10	Hygienic problems of cities. Hygiene of residential and public buildings /Self-study/	4	3		L1.1 L1.2 L2.1 E1 E2 E3 E4	
	<b>Module 2. Hygiene of medical institutions</b>					
2.1	Hygienic requirements for health care facilities. Hygienic measures to ensure optimal conditions for patients in medical institutions /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	

2.2	Hygienic characteristics of the air environment the influence of physical and biological factors on the human body. Technogenic pollution of the atmospheric air and its effect on the human body. Air protection /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
2.3	Hygienic requirements for the placement and planning of medical institutions /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
2.4	Hygiene requirements for equipment in medical institutions /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
2.5	The system of sanitary and hygienic measures to create a protective regime and favorable conditions for inpatient care /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
2.6	Hygienic aspects to prevent hospital-acquired infections /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
2.7	Hygienic aspects to prevent hospital-acquired infections /Self-study/	4	2		L1.1 L1.2 E1 E2 E3 E4
<b>Module 3. Nutrition and human health</b>					
3.1	Nutrition as a health factor. Modern basics of nutrition. Food products, their sanitary and hygienic characteristics	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.2	Food poisoning, its classification. Prevention issues /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.3	Nutrition as a social and hygienic problem. A nutritional and biological role of essential nutrients /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.4	Diet. Methods for adequate nutrition assessment /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.5	Hygienic characteristics, sanitary and hygienic examination of food products. Classification according to their origin, purpose and quality /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.6	Food quality and safety. Sanitary and hygienic expertise /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.7	Food poisoning: classification, prevention /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
3.8	Business game «Investigation and prevention of food poisoning» /Practice/	4	3	GPC-2.2 GPC-2.3	L1.1 L1.2L2.1 E1 E2 E3 E4
3.9	Assessment of nutritional status /Self-study/	4	3		L1.1 L1.2 E1 E2 E3 E4
<b>Module 4. Radiation hygiene</b>					
4.1	Organization of a radiation safety system in the radiological hospital departments /Lecture/	4	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
4.2	Control	4	0	GPC-2.2 GPC-2.3	L1.1 L1.2L2.1 E1 E2 E3 E4
4.3	Credit	4	0	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
<b>Module 5. Hygiene of children and adolescents</b>					
5.1	The main problems of hygiene of children and adolescents. Patterns of child growth and development as the basis for valuing environmental factors /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
5.2	Physical development as an indicator of a child's health. Methods for assessing physical development. Assessment of the level of biological development using complex methods /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4

5.3	Health status of children, adolescents and adults. Individual health indicators. Health groups /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.4	Hygienic requirements for the placement, planning and equipment of pre-school and school institutions /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.5	Employment types and their regulation according to anatomical and physiological development characteristics. Professional medical consultation and professional selection of adolescents /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.6	Age and morpho-functional features of the child's body. Health protection of children and adolescents in Russia, in the Khanty - Mansiysk Autonomous Okrug-Ugra. Methods for assessing the physical development of children and adolescents /Practice/	5	3	GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.7	Assessment methods of the physical development of children and adolescents /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.8	Assessment criteria of the individual health. Assessment factors of the health state of children and adolescents /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.9	The indicators characterizing the health state. Health groups. Principles of active rehabilitation of children in school /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
5.10	The concept of "daily routine" and its physiological basis. Principles of creating daily routine. Hygienic requirements for timetable /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
	<b>Module 6. Occupational hygiene and worker health protection</b>					
6.1	Fundamentals of the labour physiology. The physiological basis of fatigue, its prevention /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.2	Hygienic characteristics of the main occupational hazards /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.3	Some issues of occupational health in the oil and gas extraction and their processing. Hygiene measures for the prevention of occupational diseases /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.4	Fundamentals of legislation on the protection of labor of women and adolescents. Regulatory indicators and documents in hygiene. Organization of preliminary and periodic medical examinations /Lecture/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.5	Hygienic foundations of a healthy lifestyle. Personal hygiene. Prevention of bad habits /Lecture/	5	1	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.6	Physiological and hygienic criteria for assessing the labour severity and intensity. Justification of rational work and rest regimes /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	
6.7	Harmful and dangerous factors of the production environment. Hygienic assessment of occupational hazards (noise, vibration, industrial dust, industrial poisons) /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4	

6.8	Working conditions, occupational diseases and poisoning. The effect of working conditions on the labour burden at industrial enterprises. Methods for studying the health state. Organization and procedure for conducting preliminary and periodic medical examinations /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
6.9	Requirements for sanitary devices at the enterprise. Therapeutic and prophylactic nutrition of workers /Practice/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
6.10	General principles of recreational activities in the workplace /Practice/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
6.11	Job aspects of a doctor in the workshop. Compilation of the set of hygienic, preventive and health measures at work. Business game /Practice/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
6.12	The biological effect of ionizing radiation. Dosimetry control. Ensuring radiation safety in medical institutions /Practice/	5	2	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
6.13	Occupational hygiene and worker health protection /Self-study/	5	2		L1.1 L1.2L2.1 E1 E2 E3 E4
<b>Module 7. Military Hygiene</b>					
7.1	Organizational basics of sanitary and epidemiological supervision of food and water supply of troops in field conditions /Lecture/	5	1	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
7.2	Organizational fundamentals of sanitary and epidemiological surveillance of personnel nutrition /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
7.3	Medical monitoring of working conditions in individual combat arms. Hygiene of the field placement of personnel. Military conditions. Complex of hygienic, preventive and health-improving measures for work in barracks, training camps, field dwellings /Practice/	5	4	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
7.4	Military Hygiene /Self-study/	5	2		L1.1 L1.2 E1 E2 E3 E4E3 E4
<b>Module 8. Complex of hygienic, preventive and health measures in manufacturing</b>					
8.1	Complex of hygienic, preventive and health measures in manufacturing /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
8.2	Hygienic requirements for school textbooks, children's books /Practice/	5	3	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
8.3	/Self-study/	5	4	GPC-2.2 GPC-2.3	L1.1 L1.2 E1 E2 E3 E4
8.3	Control	5	0	GPC-2.2 GPC-2.3	L1.1 L1.2L2.1 E1 E2 E3 E4
8.4	Exam	5	36	GPC-2.2 GPC-2.3	L1.1 L1.2L2.1 E1 E2 E3 E4

## 5. ASSESSMENT TOOLS

### 5.1. Assessment tools

Presented by a single document

### 5.2. Assessment tools for diagnostic assessment

Presented by a single document

<b>6. COURSE (MODULE) RESOURCES</b>				
<b>6.1. Recommended Literature</b>				
<b>6.1.1. Core</b>				
	Authors	Title	Publish, year	Quantity
L1.1	Shashina E.A., Makarova V.V.	Educational and methodological textbook for practical classes on hygiene: textbook	Moscow: GEOTAR-Media, 2020, electronic resource	2
L1.2	Melnichenko P.I.	Hygiene: textbook	Moscow: GEOTAR-Media, 2021, electronic resource	2
<b>6.1.2. Supplementary</b>				
	Authors	Title	Publisher, year	Quant
L2.1	Kislyi S. D.	Problems of healthcare, hygiene and medicine: proceedings of the Second International Conference, Moscow, December 11 -14, 2006.	Moscow: Publishing House of the Peoples' Friendship University of Russia, 2006	1
<b>6.2. Internet resources</b>				
E1	<a href="http://iprbookshop.ru/">http://iprbookshop.ru/</a>			
E2	<a href="http://e.lanbook.com/">http://e.lanbook.com/</a>			
E3	<a href="http://www.znanium.com">http://www.znanium.com</a>			
E4	<a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a>			
<b>6.3.1 Software</b>				
6.3.1.1	Application Software Package Microsoft Office			
<b>6.3.2 Information Referral systems</b>				
6.3.2.1	Information and legal portal Garant.ru <a href="http://www.garant.ru">http://www.garant.ru</a>			
6.3.2.2	Legal reference system Consultant Plus <a href="http://www.consultant.ru">http://www.consultant.ru</a>			

<b>7. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE (MODULE)</b>	
7.1	Classrooms for lectures are equipped with a multimedia projector, a screen, a mobile educational board, and standard educational furniture. Classrooms 431 and 439 are equipped with educational and interactive whiteboards, study tables, chairs, portable multimedia equipment, computers with Internet and LAN access. Hardware and software complex VNC-spectrum "Neurosoft", Microflux with modules for monitoring brain functions "Neurosoft", complex for psychophysiological research "NS-Psychotest" "Neurosoft", bicycle ergometer. Devices for measuring the parameters of the microclimate of public buildings, air purity, illumination and insolation, dosimetric control, food quality determination - thermometers, hygrometers, psychrometers, anemometers, meteorometer, luxmeters, individual dosimeters, aspirators, devices for rapid analysis of harmful substances in indoor air, laboratory utensils, reagents Stationary stand "Personal protective equipment". Layouts of buildings and structures. Lesson tables for all topics