

**Thematic lesson plan of the lecture type
in the discipline "Hygiene"
for students in basic vocational education
specialist 's program
specialty 31.05.01 "General Medicine",
focus (profile) General Medicine,
Full-time form of education
for 2023-2024 academic year**

№	Themes of lecture-type classes	Volume per semester, hours (academician)	
1	<p>Hygiene as a science. Subject and tasks of hygiene. Origins of Hygiene. The importance of hygiene for preventive thinking of the doctor. Modern problems of hygiene and ecology¹</p> <p>The subject and content of hygiene. History of the formation and development of hygiene. The connection of hygiene with other sciences. The importance of hygiene in the activities of the attending physician. The concept of primary and secondary disease prevention. The relationship and interaction of preventive and therapeutic medicine. Monitoring the state of population's health and the environment, analyzing, evaluating and forecasting it, determining causal relationships between the state of public health and the impact of environmental factors.²</p>	2	
2	<p>Environment and its hygienic value. Environmental factors and their impact on public health. Health risk assessment from environmental pollution.¹</p> <p>Environment as a combination of natural, man-made and social factors. The concept of the biosphere and its components. The concept of human ecology. Environmental factors and public health. The importance of biological chains in the transfer of harmful substances from the environment to humans. Long-term effects of harmful substances on the body. Hygienic regulation and forecasting. Elements of hygienic diagnostics in the practical work of a doctor.²</p>	2	
3	<p>Hygiene of the air. The effect of atmospheric pollution on sanitary living conditions and public health. Air protection.¹</p> <p>The chemical composition of atmospheric air and its hygienic value. Air pollution and protection as a social and environmental-hygienic problem. Hygienic characteristics of the main sources of air pollution. The composition of atmospheric emissions by major industries. The degree of hazard of industrial emissions to the environment and public health. The main measures for the protection of atmospheric air and their hygienic effectiveness.²</p>	2	
4	<p>Climate and weather, hygiene value. Physical properties of the air, the microclimate of the premises and its hygienic value. Hygienic aspects of acclimatization.¹</p> <p>Physical properties of air and their importance for the body. Types of microclimate and the effect of uncomfortable microclimate on heat transfer and human health. Weather, definition and medical classification of weather types. Biorhythms and health. Climate, definition of a concept. Climatic zoning of the territory. The impact of climate on health and functional state. The use of climate for therapeutic purposes. Acclimatization and its hygienic value.²</p>	2	
5	<p>Solar radiation, hygienic value.¹</p> <p>Solar radiation and its hygienic value. Light climate. Hygienic characteristics of the infrared, ultraviolet and visible parts of the solar spectrum. The biological effect of the ultraviolet part of the solar spectrum. Ultraviolet insufficiency, its manifestation and prevention. Artificial sources of UV radiation, their hygienic characteristics.²</p>	2	
6	<p>Hygiene of water and water supply in populated areas¹</p> <p>The physiological and sanitary-hygienic significance of water. Norms of water consumption for the population. The role of water in the spread of infectious and parasitic diseases. Diseases associated with the use of water containing chemical impurities. Principles for the prevention of waterborne diseases. Hygienic requirements for the quality of drinking water with centralized and local water supply.²</p>	2	
7	<p>Sources of water supply. Sanitary & hygienic characteristics.¹</p> <p>Comparative hygienic characteristics of water sources: ground water, surface water and rain water.</p>	2	

	Centralized water supply, noncentralized water supply. Zones of sanitary protection of water sources. The main methods of purification and disinfection of water. Protection of water bodies and sources of water supply. ²		
8	Hygienic problems of human settlements. Living conditions in modern cities and their impact on public health. ¹ The concept of urbanization, agglomeration, megacities. City-forming factors and the structure of a modern city. Ecological problems of a large city. Health status in modern cities. Urban improvement measures. The role of green spaces, ponds, recreational areas. ²	2	
9	Nutrition and human health. Scientific basis of a healthy diet. Characterization of physiological nutritional standards. Nutritional status as an indicator of health, assessment criteria. ¹ The importance of nutrition for the health, physical development and health of the population. The concept and principles of rational nutrition. Principals of rational nutrition Characterization of physiological nutritional standards. Analysis of various nutrition theories. Methods for assessing the adequacy of nutrition. Prevention of diseases associated with nutrition. ²	2	
10	Functions, adequate intake, dietary sources of proteins, fats and carbohydrates in diet. ¹ Macronutrients: proteins, fats, carbohydrates; their meaning and rationing, sources in nutrition. Proteins of animal and vegetable origin, their sources, hygienic value. Fats of animal and vegetable origin, their sources, role in human nutrition. Simple and complex carbohydrates, their sources, hygienic value. The concept of refined foods and "protected" carbohydrates. Dietary fibers, their role in nutrition and digestion. ²	2	
11	Functions, adequate intake, dietary sources of vitamins and minerals in diet. ¹ Vitamins, classification, their sources, hygienic value. Avitaminosis, hypovitaminosis, hypervitaminosis, their causes, clinical manifestations, prevention. Macro and microelements, hygienic value, adequate intake, dietary sources. Classification of minerals (minerals maintaining alkaline-base balance, minerals maintaining acid-base balance. The courses of mineral metabolism disorders. ²	2	
12	The quality and safety of food. Xenobiotics, dietary sources. ¹ Xenobiotics in food. Sources and routes of entry. Impact on public health. Safety assessment of food products of animal and vegetable origin. ²		2
13	Preventive measures against food poisonings. ¹ Food poisoning, concept. Classification of food poisoning. Food poisoning of microbial and non-microbial nature (staphylococcal toxicosis, botulism, salmonellosis, poisoning with poisonous products of plant origin, poisoning with an admixture of chemicals,). Prevention ²		2
14	Hygiene of therapeutic and preventive medical establishments. Preventive measures against hospital –acquired infections. ¹ The main objectives of hospital hygiene. Hygienic requirements for the placement of hospitals and the layout of the hospital site. Hospital development systems. Hygienic requirements for the layout, equipment of the reception department, ward section, medical and diagnostic departments. Air exchange, microclimate, lighting, acoustic mode, decoration, color interior. Hygienic aspects of the prevention of nosocomial infections. ²		2
15	Occupational hygiene. Physical hazardous working environment factors. Their influences on the health of workers. Preventive measures against occupational diseases. ¹ Occupational hygiene. Classification and assessment of the factors of the working environment. Criteria and classification of working conditions. Occupational and industrial-related diseases, prevention. Industrial climate, noise, vibration, industrial dust, rationing in the work environment, the impact on the health of workers, the prevention of occupational diseases. ²		2
16	Chemical hazardous working environment factors. Their influences on the health of workers. Preventive measures against occupational diseases. ¹ Chemical hazardous working environment factors: industrial chemicals. Occupational diseases related with chemical hazardous working environment factors, the impact on the health of workers, the prevention of occupational diseases. ²		2
17	Fundamentals of physiology of work. The extend of strain and intensity of work its effects on the functional state and health of a person. Prevention of fatigue. ¹ Changes in the human body in the process of work. The extend of strain and intensity of work, its effects on the functional state and health of a person. Hygienic evaluation, criteria. Occupational health of medical workers. Fatigue and overfatigue. Preventive measures		2

	against fatigue. Occupational health of medical workers. Health care for industrial enterprises. Organization and procedure for preliminary and periodic medical examinations. ²		
18	Actual issues of radiation hygiene. Hygienic requirements for the organization of radiation protection in the radiological and radiological departments of medical organizations. ¹ Actual problems of radiation hygiene. Ionizing radiation, biological effect. Description of the main types of radiation. Factors determining the radiation hazard. Radiotoxicity Radiation Safety Standards. The use of radioactive substances in open and closed forms. Principles of protection against external and internal ionizing radiation. Dosimetric control. Hygienic requirements for the planning and equipment of radiological and radiological departments of medical facilities. ²		2
19	Hygiene of children and adolescents, the main problems of hygiene in children and adolescents. Factors shaping children's health, affecting growth and development. Health indicators and groups. ¹ The subject, goals, objectives, basic problems of hygiene of children and adolescents. Patterns of growth and development of the children's body as the basis for normalizing the environment of children and adolescents. The health status of children and adolescents, factors shaping and deforming health. School diseases, causes, prevention. Criteria and health groups. ²		2
20	Physical development as a factor of the health of children and adolescents. Research and evaluation methods. ¹ Physical development of children and adolescents, concept. Peculiarities of physical development during childhood & adolescence. Age periodization. Indicators for assessing the physical development of children and adolescents. Evaluation Methods. Options for the conclusion. Acceleration, deceleration. ²		2
21	Healthy lifestyle, its basic elements, significance for human health. The concept and objectives of personal hygiene. ¹ Health, healthy lifestyle: concepts, content. Factors determining health. Blocks of a healthy lifestyle. The role of the doctor in the formation of healthy lifestyle. Models for the formation of healthy lifestyle. Personal hygiene. ²		2
	ИТОГО	22	20

1 - topic

2 - essential content

Considered at the meeting of the department of General hygiene and ecology IPH may, 24, 2023, protocol No 9.



Head of the Department

N.I. Latyshevskaya