



INTERNATIONAL EUROPEAN UNIVERSITY
EDUCATIONAL AND SCIENTIFIC INSTITUTE
"EUROPEAN MEDICAL SCHOOL"
DEPARTMENT
OF MEDICAL AND PREVENTIVE DISCIPLINES

THEMATIC PLAN OF PRACTICAL CLASSES
FOR 3RD YEAR STUDENTS, V SEMESTER
SPECIALTY 222 "MEDICINE"
DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
	Section 2. Special issues of hygiene and ecology.	
1.	Legislative fundamentals of sanitary control in hygiene of labour.	2
2.	Method of hygienic assessment of hazardous and dangerous factors of the industrial environment and the organism reactions on their impact, prophylactic measures. Methods of hygienic assessment of noise.	2
3.	Methods of hygienic assessment of vibration. Methods of hygienic assessment of EMF (electric-magnetic fields).	2
4.	Toxicologic and hygienic characteristic basic industrial poisons. Prevention professional poisonings.	2
5.	Poisonings by heavy metals. Prevention poisonings by heavy metals. Hygiene of work in agriculture.	2
6.	Action of the dust on the organism. Professional dust pathology and its prevention.	2
7.	Methods for assessing the health and physical development of children and adolescents.	2
8.	Hygienic requirements to equipment and maintenance in educational institutions for children and adolescents.	2
9.	Features of nutrition hygiene for children.	2
10.	Modern problems of the intrahospital infection and hygienic measures complex on its prevention.	2
11.	Measures for Prevention of Harmful Effect of Biological Factors.	2
12.	Organization and carrying out sanitary inspection of water supply for the population in conditions of arid and humid tropical areas of the tropics. Organization and conduct of exploration of water resources and water sources in a tropical climates.	2
13.	Peculiarities of human radiation exposure formation in settlements, its hygienic assessment and ways of decreasing of radiation exposure. Radiation dangerous and antiradiation protection on radiation industrial enterprises.	2
14.	Hygienic assessment of radiation protection of personnel and radiation safety of patients during using of radioactive nuclides and other sources of ionizing radiation in patient care institutions.	2
15.	Fundamentals of the organization of sanitary-and-hygienic measures in extreme situations. Features of field locations in extreme situations.	2
16.	Final control (credit).	2
Total:		32

Discussed and approved at the meeting of the department of
 MEDICAL AND PREVENTIVE DISCIPLINES,
 protocol № 1 from "25" 08 2021

Head of the department, Doctor of Biological Sciences, Associate Professor

 Maya VERGOLYAS



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THEMATIC PLAN OF PRACTICAL CLASSES
FOR 2ND YEAR STUDENTS, IV SEMESTER
SPECIALTY 222 "MEDICINE"
DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
	Section 1. General issues of hygiene and ecology.	
	Content section 1. Introduction to hygiene and ecology. Hygiene and ecology as a science. Basics of preventive and current sanitary supervision.	
1.	Introductory lesson. The place and importance of hygiene in the system of medical sciences and practical activities of the doctor. Methods of hygienic research.	2
	Content section 2. Hygienic value of the environment and methods of its research. Hygiene of settlements and housing. Air hygiene.	
2.	Hygienic assessment of radiant energy. Methods for determination and hygienic evaluation of ultraviolet (UV) radiation.	2
3.	Methods of determination and hygienic assessment of natural lighting.	2
4.	Methods of hygienic estimation of artificial illumination. Biosafety of settlements.	2
5.	Methods of a hygienic estimation of climate-weather conditions and their influence on the person.	2
6.	Methods of hygienic assessment and biosafety of the complex effect of the microclimate on the human heat exchange.	2
7.	Methods of hygienic estimation of temperature-and-humidity regimen, influence on the human heat exchange, bioethic issues.	2
8.	Sanitary protection of atmospheric air. Hygiene of settlements planning. Hygiene of residential and public buildings.	2
	Content section 3. Water hygiene and water supply. Soil hygiene, sanitary cleaning of settlements.	
9.	Hygiene of water and water supply. Sanitary protection of water supply objects.	2
10.	Method of hygienic assessment of soil according to the sanitary inspection of the land parcel and laboratory analysis of samples. Basics of the sanitary purification of settlements.	2
	Content section 4. Food hygiene.	
11.	Method of calculation of the human energy expenditures and requirements in nutrients.	2
12.	Method of expert assessment of foodstuffs and ready meals according to results of their laboratory analysis.	2
13.	Sanitary-hygienic control of public nutrition. Quality criteria of milk.	2
14.	Sanitary-hygienic control of public nutrition. Standard requirements to bread, macaroni. Quality criteria of grains.	2
15.	Sanitary-hygienic control of public nutrition. Quality criteria of meat, fish.	2
16.	Final control (credit).	2
Total:		32

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THEMATIC PLAN OF LECTURES
FOR 3RD YEAR STUDENTS, V SEMESTER
SPECIALTY 222 "MEDICINE"

DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
	Section 2. Special issues of hygiene and ecology.	
1.	Hygienic characteristics of harmful and dangerous factors of the environment, their impact on the body, preventive measures.	2
2.	Current issues of hygiene of children and adolescents. Bioethics and biosafety in the hygiene of children and adolescents.	2
3.	Hygiene of medical and preventive institutions and prevention of intrahospital infections. Biosafety issues in the activities of medical and preventive institutions.	2
4.	Topical issues of radiation hygiene. Issues of bioethics and biosafety in the application of ionizing radiation. Sanitary protection of the environment from radioactive contamination as a hygienic problem. Hygienic aspects of the Chernobyl accident.	2
Total:		8

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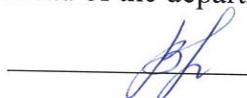
THEMATIC PLAN OF LECTURES
FOR 2ND YEAR STUDENTS, IV SEMESTER
SPECIALTY 222 "MEDICINE"

DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
1.	Hygiene as a science. Ecology as a science. Environment and human health. Biosphere and its hygienic significance. Solar radiation, its hygienic significance. Usage of the ultraviolet radiation in preventive medicine.	2
2.	Current issues of municipal hygiene (problems of urbanization, hygiene of settlements, microclimate, lighting, heating, ventilation, biosafety of settlements).	2
3.	Hygiene of weather and climate. Acclimatization, heliometotropic reactions and their prevention, bioethical principles of assess the impact of climatic and weather conditions on health.	2
4.	Hygiene of drinking water and water supply.	2
5.	Nutrition as a factor of health. Biosafety in food hygiene.	2
6.	Diseases related to violation of the rational nutrition basics and the use of poor-quality products, their prevention.	2
7.	Hygienic, toxicological and epidemiological problems of nutrition in tropical regions. Hygiene of water and features of water supply of the population in a tropical climate.	2
8.	Current issues of labour hygiene, biosafety in hygiene of labour.	2
Total:		16

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THEMATIC PLAN OF INDEPENDEND WORK OF STUDENTS

FOR 6TH YEAR STUDENTS, XII SEMESTER
SPECIALTY 222 "MEDICINE"
DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
I	Preparation for practical classes - theoretical training and development of practical skills	40
II	Independent study of topics that are not included in the plan of classroom classes:	28
1.	Scientific bases of medical biorhythmology and chronohygiene.	4
2.	Primary prevention of HIV infection. Prevention of HIV infection in medical institutions.	4
3.	Hygienic assessment of the conditions of patients in treatment and prevention facilities.	4
4.	Occupational health and safety in certain structural units of treatment and prevention facilities.	4
5.	Environmental diseases of children and adolescents.	4
6.	Hygienic aspects of living in areas with high levels of radioactive contamination due to the Chernobyl disaster.	4
7.	Organization and carrying out of sanitary supervision over working conditions of liquidators of consequences of emergency situations.	4
III	Individual independent work of the student. Sanitary and hygienic examination of the conditions of patients' stay in the hospital, where the student supervises the patient (at one of the clinical departments) and the working conditions of the medical staff. The results of the examination the student draws up in the form of "Act of sanitary inspection".	8
IV	Preparation for the final credit control.	4
Total:		80

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THEMATIC PLAN OF INDEPENDEND WORK OF STUDENTS

FOR 3RD YEAR STUDENTS, V SEMESTER
 SPECIALTY 222 "MEDICINE"
 DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
Section 2. Special issues of hygiene and ecology		
I.	Preparation for practical classes - theoretical training and development of practical skills	32
II	Independent study of topics that are not included in the plan of classroom classes:	12
1	Medical and sanitary units and health centers of industrial enterprises, hygienic aspects of their work.	2
2	Methods of investigating cases of occupational diseases and poisonings. Preliminary and periodic medical examinations as measures for their prevention of groups.	2
3	Methods of hygienic control over the organization of physical education and labor training of children and adolescents Medical and professional consultation and medical professional selection of adolescents in school and clinic.	2
4.	Occupational hazards and occupational hygiene of medical staff of hospital departments of various profiles (clinics, reception, somatic, surgical, infectious, X-ray, radiological, physiotherapeutic and others).	2
5.	Hygienic aspects of the Chernobyl accident. The main types of radiation damage to the body. Long-term consequences.	1
6.	Psychohygienic bases of daily human activity.	1
7.	Scientific bases of medical biorhythmology and chronohygiene.	1
8.	Hygienic assessment of detergents, fabrics and household, industrial and hospital clothing.	1
III.	Individual independent work of the student. Sanitary and hygienic examination of the conditions of patients' stay in the hospital, where the student supervises the patient (at one of the clinical departments) and the working conditions of the medical staff. The results of the examination the student draws up in the form of "Act of sanitary inspection".	4
IV.	Preparation for the final credit control.	2
Total:		50

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THEMATIC PLAN OF INDEPENDEND WORK OF STUDENTS

FOR 2ND YEAR STUDENTS, IV SEMESTER
 SPECIALTY 222 "MEDICINE"
 DISCIPLINE
HYGIENE AND ECOLOGY

№	Topic	Hours
Section 1. General issues of hygiene and ecology.		
I	Preparation for practical classes - theoretical training and development of practical skills	18
II	Independent study of topics that are not included in the plan of classroom classes:	8
1.	History of origin, main stages of development and current state of hygiene.	1
2.	Hygienic value of biosphere components (atmosphere, hydrosphere, lithosphere).	1
3.	Methods of hygienic assessment of the impact of climatic weather conditions on health.	1
4.	The problem of macro- and microelements of aquatic origin. Endemic fluorosis, endemic caries, endemic goiter their prevention. Water-nitrate methemoglobinemia as a hygienic problem.	1
5.	Methods of hygienic assessment of soil according to the sanitary inspection of the land plot and the results of laboratory analysis of samples.	1
6.	Food products, their classification, physiological and hygienic value of nutrients, nutritional and biological value.	1
7.	Alimentary and alimentary-caused diseases, their classification, etiology, basic principles of prevention.	1
8.	Food poisoning, their classification, methods of investigation, general and specific prevention.	1
III	Individual independent work of the student. Methods for assessing the adequacy of individual nutrition by the calculation method according to the menu - layout.	4
IV	Preparation for the final credit control.	2

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The list of practical skills for the final control

FOR 2ND YEAR STUDENTS, IV SEMESTER

SPECIALTY 222 "MEDICINE"

DISCIPLINE

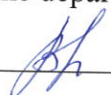
HYGIENE AND ECOLOGY

Section 1. General issues of hygiene and ecology.

1. To measure and to evaluate the indicators of the microclimate (temperature, humidity, air velocity, radiation temperature).
2. To measure the absolute and relative humidity.
3. To determine the speed of air movement.
4. To determine the radiation temperature.
5. To determine the indicators of artificial lighting (lighting, brightness, etc.) using a luxmeter.
6. To determine the intensity of ultraviolet radiation by biological and photochemical methods.
7. To take air samples by sedimentation and aspiration methods for contamination by microbes, dust, chemicals for laboratory analysis (using an electroaspirator, Krotov device, aerosol filters, allongs with absorbent reagents).
8. To calculate the required and actual volume and frequency of ventilation of the premises on the basis of maximum permissible and actual concentrations of carbon dioxide or other pollutants.
9. According to meteorological-synoptic, heliogeophysical and other weather-forming factors, to determine the medical type of weather.
10. To determine the climatic conditions of the region.
11. To take water samples when choosing sources of water supply and drinking water.
12. To calculate the amount of chlorinated lime or two-tertiary salt of calcium hypochlorite to disinfect water by chlorine consumption and the method of superchlorination.
13. To determine the amount of active chlorine in chlorinated lime, two-tertiary salt of calcium hypochlorite, tablets "pantocid", "aquasept" express field method.
14. To use methods of purification, disinfection, decontamination of water while providing a decentralized water supply system.
15. To take soil samples to determine physicochemical parameters, chemical, bacteriological, helminthological analysis.
16. To carry out of instrumental and laboratory researches of physical factors, air of a working zone.
17. To carry out ergometric timing and registration of a photo of a working day at production.
18. Noise and vibration measurement using a noise vibration complex, noise meter and noise spectrum analyzer.
19. To determine the content of toxic substances in the air using a universal gas analyzer UG-2

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The list of practical skills for the final control

FOR 3RD YEAR STUDENTS, V SEMESTER

SPECIALTY 222 "MEDICINE"

DISCIPLINE

HYGIENE AND ECOLOGY

Section 2. Special issues of hygiene and ecology.

1. To calculate daily energy expenditure and nutrient needs of the body.
2. To calculate the caloric content and balance of nutrients in the diet - the menu layout and the results of laboratory analysis of products and ready meals.
3. Determination of capillary resistance with a Matussis or Nestorov manometer.
4. To conduct a language test with Tillmanns reagent.
5. To evaluate the quality of food by organoleptic methods, to take their samples for laboratory analysis.
6. To determine the indicators of natural lighting of premises (light coefficient, coefficient of natural lighting, etc.) by calculation methods (Watt method, determination of DF according to Danyliuk's schedules and insolation time with the help of control-insolation line).
7. "Reading" architectural and planning drawings of hospital buildings.
8. Sanitary inspection of a hospital, educational, industrial institution.
9. Measurement of indicators of microclimate, light, concentration of carbon dioxide in the ward, section, department, treatment and prevention, health institution as a whole.
10. To carry out research of factors of the denatured biosphere (physical, chemical, biological pollution).
11. To carry out tempering tests.
12. Measurement the power of ionizing radiation doses at workplaces, on protective screens, individual radiation doses of category A personnel, calculate radionuclide contamination of work surfaces and their concentration in air, water, food.
13. To carry out preventive measures when working in hot and tropical climates, when organizing water supply and nutrition in arid and humid tropical climate.
14. To register indicators of a physiological condition of an organism (heart rate, size of arterial pressure, concentration of attention, latent periods of sensorimotor reactions, force of a brush, position force, volume of working memory).
15. Measurement of thickness, thermal conductivity, hygroscopicity of fabrics for household, industrial, hospital clothes.
16. To carry out somatoscopic, somatometric, physiometric, neuropsychological researches of physiological development of children and teenagers
17. To carry out measurements of educational premises, school furniture.

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