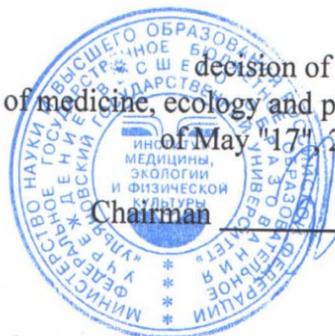


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| F-Educational plan of the discipline | | |

APPROVED BY
decision of the Academic council of
institute of medicine, ecology and physical education ULSU
of May "17" 2023, protocol No. 9/250



Chairman

(V.I. Midlenko)

"17" 05 2023

WORKING DISCIPLINES PROGRAM

| | |
|------------|------------------------------------|
| Discipline | Bases of rational nutrition |
| Faculty | Medical faculty of T.Z. Biktimirov |
| Department | Public health and health care |
| Course | III |

Direction (specialty) 31.05.01 General medicine

code of the direction (specialty), full name

Orientation (profile/specialization) not provided

full name

Internal form of education

Date of Introduction in educational process of ULSU «01 "september 2023

The program is updated at a faculty meeting: protocol No. 10 from 22.05. 2024.

The program is updated at a faculty meeting: protocol No. _____ from _____ 20 _____.

Information about developers:

| Name | Department | Degree, scientific rank |
|--------------|-------------------------------|--|
| Alabina E.V. | Public health and health care | Associate professor, PhDs in Medicine. |

| Agreed | Agreed |
|--|---|
| Head of the department, developing discipline - head of the department of public health and health care | Head of graduating department hospital therapy |
|  / V.I. Gorbunov. / <i>Signature</i> <i>Full name</i> «17» 05. 2023г. |  / Vize-Hripunova M. A. / <i>Signature</i> <i>Full name</i> «17» 05. 2023г. |

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1. GOALS AND TASKS OF STUDYING THE COURSE

Goals of studying the course: hygiene of nutrition - the section of hygiene studying quality of foodstuff, their influence on an organism and developing the standards, requirements and recommendations about their production, storage and use directed to improvement of health of the population. The hygiene of nutrition is designed to develop scientific bases and practical actions for rational catering services of various groups of the population. The purpose of development of discipline is study: the criteria of risk caused by consumption of foodstuff which can make an adverse effect on a human body; theoretical fundamentals of science about rational nutrition; hygienic characteristic of the main components of food and their value for a human body; current trends in rationalization of food of various groups of the population; possible ways of pollution of food staples and foodstuff xenobiotics of chemical and biological origin and their influence on a human body; alimentary and dependent diseases and their prevention. Knowledge of a question of rational nutrition of the person are necessary for the doctor of any specialty.

Tasks of studying the course: to give to students modern knowledge of the basic principles of the organization of rational nutrition of the healthy and sick person; to teach to establish the reasons, conditions and risk factors of emergence and distribution among the population of the infectious and non-communicable diseases connected with foodstuff and to perform their prevention; to give knowledge of assessment of the quantitative and qualitative party of food and definition of the need for feedstuffs; to teach the principles of development and the organization of dietary, treatment-and-prophylactic food.

2. PLACE OF THE SUBJECT IN THE STRUCTURE OF GEP:

In accordance with the Federal State Education Standards of Higher Professional Education the academic course " Bases of rational nutrition " is classified as a variable part of disciplines at the choice of specialty 31.05.01 " General medicine " (higher professional education), which is studied in the V semester.

Development of discipline "Bases of rational nutrition " is based on knowledge, skills formed by the previous disciplines: «Scientific style of speech», «Preparation for clinical practice», «Project activities», «Immunology», «Project activities».

Studying discipline "Bases of rational nutrition " allows students to gain necessary knowledge, skills at development of the subsequent disciplines:«Dialogue between a doctor and a patient (diseases of the gastrointestinal tract)», «Dialogue between a doctor and a patient (diseases of the excretory system)», «Public health and healthcare.», «Modern medical information systems», «Practice on obtaining primary professional skills and skills of an outpatient clinic doctor», «Analysis of scientific text (gynecology)», «Practical application of the International Classification of Functioning in Rehabilitation in various pathologies», «Analysis of scientific text (obstetrics)», «Marketing in healthcare», «Scientific text analysis (therapy)», «Scientific text analysis (surgery)», «Organization of drug supply to the population», «Assistant doctor of an outpatient clinic», «Diagnosis and treatment of extrapulmonary tuberculosis», «Preparation for passing and passing the state exam», «Epidemiology», «Modern aspects of oncology», «Topical issues of internal diseases», «Quality management of medical care».

3. LIST OF EXPECTED RESULTS OF INSTRUCTION ON THE SUBJECT (UNIT), CORELATED WITH PLANNED RESULTS OF COMPLETING THE PROGRAM

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| The code and the name of the implemented competence | The list of the planned results of training in discipline (module) correlated to indicators of achievement of competences |
|--|--|
| UC -2 Is able to manage a project at all stages of its life cycle | IA-1uc2 Know the stages of the project life cycle, the stages of its development and implementation IA-2uc2 Be able to develop a project taking into account the analysis of alternative options for its implementation, determine the target stages, the main directions of work IA-3uc2 Possess project development and management techniques |
| PC -6 Ability to apply the basic principles of organization and management in the field of public health protection, in medical organizations and their structural divisions | To know: the state policy in the field of public health protection; the basics of the organization of medical care to the population; the basics of management, planning, financing of medical organizations and their structural units. Be able to: apply the basic principles of organization and management in the field of public health protection, in medical organizations and their structural divisions Be able to use: methods of calculation and analysis of performance indicators of medical organizations. |

4. VOLUME OF THE SUBJECT

4.1. Volume of the subject in credit points (total): 2credit points

4.2. On types of academic workload (in hours):

| Type of study | Number of hours form of education: internal | |
|---|---|-------------------------------------|
| | Only according to the plan | Including on semester 5 semester |
| Contact work of students with the teacher according to unitary enterprise | 36/36* | 36/36* |
| Classroom occupations: | 36/36* | 36/36* |
| Lectures | | |
| practical and seminar training | 36/36* | 36/36* |
| laboratory works, workshops | | |
| Independent work | 36/36 | 36/36 |
| Form of the current control of knowledge and control | Poll, testing, report | Poll, testing, report |

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| independent work: testing, Contrasts. work, colloquium, report, etc. | | |
| Termreport | | |
| Types of intermediate certification (examination, offset) | credit | credit |
| In total hours on discipline | 72/72 | 72/72 |

* In case of need uses in educational process of partially/exclusively remote educational technologies in the table through a slash the number of hours of work of PPS with students for behavior of occupations in a remote format using electronic training is specified.

4.3. Content of discipline (module.) Distribution of hours on subjects and types of study:

Internal form of education.

| Name of sections and topics | Intotal | Types of studies | | | | | Form of the current control of knowledge |
|---|---------|-------------------|------------------------------|----------------------------|--------------------------------|------------------|--|
| | | Classroom lessons | | | Lessons in an interactive form | Independent work | |
| | | Lectures | Practical training, seminars | Laboratory work, workshops | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Section 1. Main stages of development of hygiene of nutrition. | | | | | | | |
| Topic 1. Main stages of development of hygiene of nutrition. | 6 | | | | | 6 | report |
| Section 2. Bases of rational nutrition. | | | | | | | |
| Topic 2. Metabolic cost and energy value of food. | 2 | | 2 | | | | poll |
| Topic 3. Value of proteins, fats and carbohydrates in food. | 4 | | 4 | | | | poll |
| Topic 4. Vitamins and their value in | 2 | | 2 | | 1 | | poll |

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| food. | | | | | | | |
| Topic 5. Mineral substances and their value in food. | 2 | | 2 | | | | poll |
| Section 3. Theory of rational nutrition. Hygienic requirements to rational nutrition. | | | | | | | |
| Topic 6. Theory of rational nutrition. Hygienic requirements to rational nutrition. | 2 | | 2 | | | | poll |
| Section 4. Nutrition value and safety of foodstuff. | | | | | | | |
| Topic 7. Hygienic requirements to quality of foodstuff. Hygienic assessment of quality and safety of products of plant origin. | 2 | | 2 | | | | poll |
| Topic 8. Hygienic assessment of quality and safety of animal products. | 2 | | 2 | | | | poll |
| Topic 9. Preserved foods. | 2 | | 2 | | | | poll |
| Topic 10. Products with the increased nutrition value. | 2 | | 2 | | | | poll |
| Section 5. Alimentary and dependent diseases and their prevention. | | | | | | | |
| Topic 11. Alimentary and dependent non-communicable diseases and their prevention. | 2 | | 2 | | | 2 | poll |
| Topic 12. The diseases related to the infectious agents and parasites who are transferred with food. | 2 | | 2 | | 1 | | poll |

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|---|-----------|--|-----------|--|----------|-----------|---------------|
| | | | | | | | |
| Topic 13. Food poisonings of not microbic nature. | 2 | | 2 | | 1 | | poll |
| Topic 14. Poisonings with chemicals (xenobiotics). | 6 | | | | | 6 | report |
| Section 6. Food of various groups of the population. | | | | | | | |
| Topic 15. Assessment of a condition of food of various groups of the population. | 2 | | 2 | | 1 | | poll |
| Topic 16. Nutrition in the conditions of adverse action environment factors. | 6 | | | | | 6 | report |
| Topic 17. Clinical nutrition. | 3 | | 3 | | 1 | | poll |
| Topic 18. Treatment-and-prophylactic nutrition. | 3 | | 3 | | 1 | | poll |
| Topic 19. Food of children. | 6 | | | | | 6 | report |
| Topic 20. Food of pregnant women and feeding. | 6 | | | | | 6 | report |
| Topic 21. Food of persons of old and senile age. | 6 | | | | | 6 | report |
| Topic 22. Concluding lesson. pass-fail test | 2 | | 2 | | | | Poll, testing |
| Total | 72 | | 36 | | 6 | 36 | |

5. CONTENT OF THE COURSE

Section 1. Main stages of development of hygiene of nutrition.

Topic 1. Main stages of development of hygiene of nutrition.

Content of the topic. History of formation and development of hygiene of nutrition. Founders of hygienic science of nutrition.

Section 2. Energy, nutrition and biological value of food.

Topic 2. Metabolic cost and energy value of food.

Content of the topic. Exchange of energy in an organism. Energy balance. Metabolic cost of an

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organism. Methods of determination of energy requirement of people. Energy imbalance.

Topic 3. Value of proteins, fats and carbohydrates in food.

Content of the topic. Proteins and their value in food. Biological value of foodstuff. Methods of assessment of quality of protein. Diseases of malnutrition and redundancy of proteinaceous food and proteinaceous metabolism. Main solutions of a problem of providing population with protein. Nonconventional and new sources of protein. Fats and their value in food. Saturated fatty acids. Unsaturated fatty acids. Phospholipids and sterols. Consequences of excess intake of fats with food. Carbohydrates and their value in food. Functions of carbohydrates. Mono- and disaccharides. Oligosaccharides. Polysaccharides. Not starched polysaccharides. Food fibers.

Topic 4. Vitamins and their value in food.

Content of the topic. Classification of vitamins. Value of vitamins B of activity of an organism. Pseudo-vitamins substances. Mineral substances and their value in food.

Topic 5. Mineral substances and their value in food.

Content of the topic. Macrocells and microelements. Classification and characteristic of essential mineral elements. Imbalance of mineral substances. Standards of physiological requirement macro- and microelements. The reasons and manifestations of malnutrition and surplus macro- and microelements.

Section 3. Theory of rational nutrition. Hygienic requirements to rational nutrition.

Topic 6. Theory of rational nutrition. Hygienic requirements to rational nutrition.

Content of the topic. Theory of rational nutrition. Balance of proteins, fats, carbohydrates. Balance of vitamins, mineral substances and microelements. Value of the mode and conditions of food and the main hygienic requirements to them.

Section 4. Nutrition value and safety of foodstuff.

Topic 7. Hygienic requirements to quality of foodstuff. Hygienic assessment of quality and safety of products of plant origin.

Content of the topic. Foodstuff. Quality of foodstuff. Nutrition value. Safety of foodstuff. The general principles of rationing of xenobiotics in foodstuff. Grain products. A role of grain products in developing of diseases of the person and forming of alien loading. Bean. Vegetables, greens, fruit, fruits and berries. Mushrooms. Nuts, seeds and oil-bearing crops.

Topic 8. Hygienic assessment of quality and safety of animal products.

Content of the topic. Hygienic assessment of quality and safety of animal products. Milk and dairy products. Eggs and egg products. Meat and meat products. Fish, fish products and seafood.

Topic 9. Preserved foods.

Content of the topic. Classification of canned food. Types of conservation of products. Veterinary and sanitary and hygienic examination of canned food.

Topic 10. Products with the increased nutrition value.

Content of the topic. Nutritional food and drink. Functional foodstuff. Dietary supplements to food. Hygienic approaches to forming of rational daily grocery set. Pyramid of healthy food.

Section 5. Alimentary and dependent diseases and their prevention.

Topic 11. Alimentary and dependent non-communicable diseases and their prevention.

Content of the topic. Food and prevention of excess body weight and obesity. Food and prevention of diabetes of the II type. Food and prevention of cardiovascular diseases. Food and prevention of oncological diseases. Food and prevention of osteoporosis. Food

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and prevention of caries. Food allergies and other manifestations of food intolerance.

Topic 12. The diseases related to the infectious agents and parasites who are transferred with food.

Content of the topic. Food poisonings of a microbic etiology. General factors of developing of food poisonings of a microbic etiology. Food toxicoinfections and their prevention. Food bacterial toxicoses. Food mycotoxicosis.

Topic 13. Food poisonings of not microbic nature.

Content of the topic. Poisonings with mushrooms. Poisonings with poisonous plants. Poisonings with seeds of the weed plants polluting cereal cultures. Poisonings with the animal products poisonous by the nature. Poisonings with vegetable products, poisonous under certain conditions. Poisonings with animal products, poisonous under certain conditions.

Topic 14. Poisonings with chemicals (xenobiotics).

Content of the topic. Poisonings with heavy metals and arsenic. Poisonings with pesticides and other agrochemicals. Poisonings with components of agrochemicals. Nitrosamines. The polychlorinated biphenyls. Acrylamide. Investigation of food poisonings.

Section 6. Food of various groups of the population.

Topic 15. Assessment of a condition of food of various groups of the population.

Content of the topic. Condition of food of the person. Assessment of the actual food, state of health, ecological status. **Analysis and optimization of organized food of the population.**

Topic 16. Nutrition in the conditions of adverse action environment factors.

Content of the topic. Bases of alimentary adaptation. Mechanisms of alimentary regulation of metabolism of xenobiotics. Catering services of the population in the conditions of alien loading. Hygienic control of a state and catering services of the population living in conditions of radioactive loading. The main ways of migration of radionuclides in the biosphere. Distribution and concentration of radionuclides in the main groups of food staples. Rationing of radionuclides. Alimentary ways of decrease in radio loading. Catering services of the population in the conditions of radioactive loading.

Topic 17. Clinical nutrition.

Content of the topic. Modern clinical nutrition. Signs and features of clinical nutrition. Principles of clinical nutrition. Nomenclature of dietary tables. New nomenclature of diets. Requirements to the organization of clinical nutrition in MPI and sanatorium institutions. Recommendations about the equipment of catering department and still-rooms and requirement to the sanitary and hygienic mode. Dietary food in a public catering, sanatoria and dispensaries.

Topic 18. Treatment-and-prophylactic nutrition.

Content of the topic. Treatment-and-prophylactic nutrition. TPF diets. Milk (fermented milk products). Vitamin drugs. Work in the conditions of high temperatures. Rules of delivery of TPF.

Topic 19. Nutrition of children.

Content of the topic. Nutrition of children. Physiological norms of food of children. Nutrition of children of early age. Catering services of children. Sanitary and hygienic requirements to production and turnover of foodstuff of the children's range.

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Topic 20. Nutrition of pregnant women and feeding.

Content of the topic. Food of pregnant women and feeding. Food of women in the first and in the second half of pregnancy.

Topic 21. Nutrition of elderly.

Content of the topic. Age features of an organism of elderly and basic principles of nutrition of elderly. Standard daily rates of physiological requirement of energy and feedstuffs for elderly.

Topic 22. Concluding lesson.

Content of the topic. Poll, testing.

6. TOPICS OF PRACTICAL CLASSES AND SEMINARS

Section 1. Energy, nutrition and biological value of food.

Topic 1. Metabolic cost and energy value of food.

Practical occupation.

Questions (for discussion).

1. Exchange of energy in an organism.
2. Energy balance.
3. Metabolic cost of an organism.
4. Methods of determination of energy requirement of people.
5. Energy imbalance.

Topic 2. Value of proteins, fats and carbohydrates in food.

Practical occupation.

Questions (for discussion).

1. Proteins and their value in food.
2. Biological value of foodstuff.
3. Methods of assessment of quality of protein.
4. Diseases of malnutrition and redundancy of proteinaceous food and proteinaceous metabolism.
5. Main solutions of a problem of providing population with protein.
6. Nonconventional and new sources of protein.
7. Fats and their value in food.
8. Saturated fatty acids.
9. Unsaturated fatty acids.
10. Phospholipids and sterols.
11. Consequences of excess intake of fats with food.
12. Carbohydrates and their value in food.
13. Functions of carbohydrates.
14. Mono- and disaccharides.
15. Oligosaccharides.
16. Polysaccharides.
17. Not starched polysaccharides.
18. Food fibers.

Topic 3. Vitamins and their value in food.

Practical occupation.

Questions (for discussion).

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1. Classification of vitamins.
2. Value of vitamins B of activity of an organism.
1. Ascorbic acid. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism. Manifestation of malnutrition and surplus.
2. Bioflavonoids. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
3. B1 vitamin. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources.
4. Vitamin B₂. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources.
5. Vitamin B₆. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
6. PP vitamin. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
7. Folic acid. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
8. B12 vitamin. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
9. Pantothenic acid. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
10. Biotin. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
11. Vitamin A. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
12. Vitamin D. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
13. Vitamin E. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
14. Vitamin K. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.
15. Pseudo-vitamins substances. Comprehensibility and physiological functions. Standards of physiological requirement. Main food sources and possibility of providing organism.

Topic 4. Mineral substances and their value in food.

Practical occupation.

Questions (for discussion).

1. Macrocells and microelements.
2. Classification and characteristic of essential mineral elements.
3. Imbalance of mineral substances.
4. Standards of physiological requirement macro - and microelements.
5. The reasons and manifestations of malnutrition and surplus macro - and microelements.

Section 3. Theory of rational nutrition. Hygienic requirements to rational nutrition.

Topic 5. Theory of rational nutrition. Hygienic requirements to rational nutrition.

Practical occupation.

Questions (for discussion).

1. Theory of rational nutrition.
2. Balance of proteins.

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3. Balance of fats.
4. Balance of carbohydrates.
5. Balance of vitamins, mineral substances and microelements.
6. Value of the mode and conditions of food and the main hygienic requirements to them.

Section 4. Nutrition value and safety of foodstuff.

Topic 6. Hygienic requirements to quality of foodstuff. Hygienic assessment of quality and safety of products of plant origin.

Practical occupation.

Questions (for discussion).

1. Foodstuff. Quality of foodstuff. Nutrition value.
2. Safety of foodstuff.
3. The general principles of rationing of xenobiotics in foodstuff.
4. Grain products.
5. Role of grain products in developing of diseases of the person and forming of alien loading.
6. Bean.
7. Vegetables, greens, fruit, fruits and berries.
8. Mushrooms.
9. Nuts, seeds and oil-bearing crops.

Topic 7. Hygienic assessment of quality and safety of animal products.

Practical occupation.

Questions (for discussion).

1. Hygienic assessment of quality and safety of animal products.
2. Milk and dairy products.
3. Eggs and egg products.
4. Meat and meat products.
5. Fish, fish products and seafood.

Topic 8. Preserved foods.

Practical occupation.

Questions (for discussion).

1. Classification of canned food.
2. Types of conservation of products.
3. Veterinary and sanitary and hygienic examination of canned food.

Topic 9. Products with the increased nutrition value.

Practical occupation.

Questions (for discussion).

1. Nutritional food and drink.
2. Functional foodstuff.
3. Dietary supplements to food.
4. Hygienic approaches to forming of rational daily grocery set.
5. Pyramid of healthy food.

Section 5. Alimentary and dependent diseases and their prevention.

Topic 10. Alimentary and dependent non-communicable diseases and their prevention.

Practical occupation.

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Questions (for discussion).

1. Food and prevention of excess body weight and obesity.
2. Food and prevention of diabetes of the II type.
3. Food and prevention of cardiovascular diseases.
4. Food and prevention of oncological diseases.
5. Food and prevention of osteoporosis.
6. Food and prevention of caries.
7. Food allergies and other manifestations of food intolerance.

Topic 11. The diseases related to the infectious agents and parasites who are transferred with food.

Practical occupation.

Questions (for discussion).

1. Food poisonings of a microbic etiology.
2. General factors of developing of food poisonings of a microbic etiology.
3. Food toxicoinfections and their prevention.
4. Foodbacterialtoxicoses.
5. Foodmycotoxicoses.

Topic 12. Food poisonings of not microbic nature.

Practical occupation.

Questions (for discussion).

1. Poisonings with mushrooms.
2. Poisonings with poisonous plants.
3. Poisonings with seeds of the weed plants polluting cereal cultures.
4. Poisonings with the animal products poisonous by the nature.
5. Poisonings with vegetable products, poisonous under certain conditions.
6. Poisonings with animal products, poisonous under certain conditions.

Section 6. Food of various groups of the population.

Topic 13. Assessment of a condition of food of various groups of the population.

Practical occupation.

Questions (for discussion).

1. Condition of food of the person.
2. Assessment of the actual food, state of health, ecological status.
3. Analysis and optimization of organized food of the population.

Topic 14. Nutrition in the conditions of adverse action environment factors.

Practical occupation.

Questions (for discussion).

1. Bases of alimentary adaptation.
2. Mechanisms of alimentary regulation of metabolism of xenobiotics.
3. Hygienic control of a state and catering services of the population living in conditions of radioactive loading.
4. The main ways of migration of radionuclides in the biosphere.
5. Distribution and concentration of radionuclides in the main groups of food staples.
6. Rationing of radionuclides.

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7. Alimentary ways of decrease in radio loading.
8. Catering services of the population in the conditions of radioactive loading.

Topic 15. Clinical nutrition.

Practical occupation.

Questions to a Topic (for discussion).

1. Modern clinical nutrition.
2. Signs and features of clinical nutrition.
3. Principles of clinical nutrition.
4. Nomenclature of dietary tables.
5. New nomenclature of diets.
6. Requirements to the organization of clinical nutrition in MPI and sanatorium institutions.
7. Recommendations about the equipment of catering department and still-rooms and requirement to the sanitary and hygienic mode.
8. Dietary food in a public catering, sanatoria and dispensaries.

Topic 16. Treatment-and-prophylactic food.

Practical occupation.

Questions (for discussion).

1. Treatment-and-prophylactic Food (TPF).
2. TPF diets.
3. Milk (fermented milk products).
4. Vitamin drugs.
5. Work in the conditions of high temperatures.
6. Rules of delivery of TPF.

Topic 17. Concluding lesson.

Content of the topic. Poll, testing.

7. LABORATORY CLASSES

This type of works is not provided unitary enterprise.

8. SUBJECTS OF REPORTS

| № | Topics | Approximate subjects of reports |
|----------|---|--|
| 1. | Main stages of development of hygiene of nutrition. | <ol style="list-style-type: none"> 1. History of formation and development of hygiene of nutrition. 2. Founders of hygienic science of nutrition. |
| 2. | Nutrition in the conditions of adverse environment factors. | <ol style="list-style-type: none"> 1. Bases of alimentary adaptation. Mechanisms of alimentary regulation of metabolism of xenobiotics. Catering services of the population in the conditions of alien loading. 2. Hygienic control of a state and catering services in conditions of radioactive loading. |
| 3. | Poisonings with chemicals (xenobiotics). | <ol style="list-style-type: none"> 1. Poisonings with heavy metals and arsenic. 2. Poisonings with pesticides and other agrochemical means. 3. Poisonings with components of |

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| | | agrochemicals. 4. Nitrosamines. The polychlorinated biphenyls. Acrylamide. 5. Investigation of the food poisonings caused by chemicals (xenobiotics). |
| 4. | Nutrition of children. | 1. Feeding habits of children 2. Food of children of early age 3. Catering services of children. Sanitary and hygienic requirements to production and turnover of foodstuff of the children's range. |
| 5. | Nutrition of pregnant women and feeding. | 1. The physiological changes in an organism happening during pregnancy. 2. Nutritional habits of pregnant women and feeding. of women in the first half of pregnancy. 3. Food of women in the second half of pregnancy. |
| 6. | Nutrition of elderly. | 1. Age features of an organism of elderly and basic principles of nutrition of elderly. 2. Standard daily rates of physiological requirement of energy and feedstuffs for elderly. |

9. QUESTIONS FOR CREDIT

1. Main stages of development of hygiene of nutrition.
2. Metabolic cost of an organism. Methods of determination of energy requirement of people.
3. Biological role of proteins, sources, norms. Amino acids. Amino-acid it is fast.
4. Biological role of fats, sources, norms.
5. Biological role of carbohydrates, sources, norms.
6. Biological role of water-soluble vitamins, sources, norms.
7. Biological role of oil-soluble vitamins, sources, norms.
8. Biological role of mineral substances, sources, norms.
9. Theory of rational nutrition. Hygienic requirements to rational nutrition of the person.
10. Hygienic requirements to quality of foodstuff. Hygienic assessment of quality and safety of products of plant origin.
11. Hygienic assessment of quality and safety of animal products.
12. Classification of canned food. Types of conservation of products. Veterinary-sanitary and hygienic examination of canned food.
13. Products with the increased nutrition value.
14. Pyramid of healthy food.
15. Food and prevention of excess body weight and obesity.
16. Food and prevention of diabetes of the II type.
17. Food and prevention of cardiovascular diseases.
18. Food and prevention of oncological diseases.
19. Food and prevention of osteoporosis.
20. Food and prevention of caries.

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21. Food allergies and other manifestations of food intolerance.
22. Food poisonings of a microbic etiology.
23. Food toxicoinfections and their prevention. Food bacterial toxicoses. Food mycotoxicosis.
24. Food poisonings of not microbic nature.
25. Poisoningswithchemicals (xenobiotics).
26. Assessment of a condition of food of the person.
27. Nutrition in the conditions of adverse action of factors of the environment.
28. Principles of clinical nutrition. Nomenclature of dietary tables. Newnomenclatureofdiets.
29. Treatment-and-prophylactic food. TPF diets. Milk (fermented milk products). Vitamin drugs. Work in the conditions of high temperatures. Rules of delivery of TPF.
30. Nutritionalhabitsofchildren.
31. Catering services of children. Sanitary and hygienic requirements to production and turnover of foodstuff of the children's range.
32. The physiological changes in an organism happening during pregnancy.Nutritionalhabitsofpregnantwomenandfeeding.
33. Age features of an organism of elderly people and basic principles of nutrition of elderly.

10. SELF-STUDY WORK OF STUDENTS

Internalformofeducation.

| Name and sections, and that | Typeofindependentwork | Volumeinhours | Controlform |
|--|---|---------------|------------------------------------|
| Main stages of development of hygiene of nutrition. | study of a training material, report, preparation for passing a test. | 6 | Verification of the report, offset |
| Nutrition in the conditions of adverse action environment factors. | study of a training material, report, preparation for passing a test. | 6 | Verification of the report, offset |
| Poisoningswithchemicals (xenobiotics). | study of a training material, report, preparation for passing a test. | 6 | Verificationofthereport |
| Nutritionofchildren. | study of a training material, report, preparation for passing a test. | 6 | Verificationofthereport |
| Nutrition of pregnant women and feeding. | study of a training material, report, preparation for passing a test. | 6 | Verificationofthereport |
| Nutrition of elderly. | study of a training material, report, preparation for passing a test. | 6 | Verification of the report, offset |

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11. EDUCATIONAL AND METHODOLOGICAL AND INFORMATION SUPPORT OF DISCIPLINE

a) List of recommended literature

main literature:

1. Melnichenko, P. I. Hygiene : textbook / ed. Melnichenko P. I. - Москва : ГЭОТАР-Медиа, 2021. - 512 с. - ISBN 978-5-9704-5919-5. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL : <https://www.studentlibrary.ru/book/ISBN9785970459195.html>

2. FoodHygiene :tutorial / Ю. А. Пфаргер, В. С. Кавешников, В. Н. Серебрякова и др. - Томск : Издательство СибГМУ, 2018. - 132 с. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/food-hygiene-7637970/>

additional literature:

1. Makhova, N. A. Laboratory manual of hygiene for foreign medical students / N. A. Makhova, Zayneeva R. Sh., M. B. Niezmykhamedova ; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Электрон. текстовыедан. (1 файл : 451 КБ). - Ulyanovsk :ULSU, 2017. - Текст на англ. яз. - Загл. с экрана. - Текст : электронный <http://lib.ulsu.ru/MegaPro/Download/MObject/935>

2.Educational and methodological textbook for practical classes on hygiene [Электронныйресурс] / Shashina E.A., Makarova V.V. - М.: ГЭОТАР-Медиа, 2020. Режимдоступа: <http://studentlibrary.ru/book/ISBN9785970452899.html>

educational and methodical literature:

1. **Alabina E.V.** Methodical instructions for organization of independent work of students for discipline for discipline "Bases of rational nutrition" for specialty 31.05.01 "General medicine" / E. V. Alabina. - Ulyanovsk :UISU, 2022. - Неопубликованныйресурс. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/11496>. - Режимдоступа: ЭБСУлГУ. - Текст :электронный.

Coordinated:

/Chief librarian of SL UISU/ Stadolnikova D.R./
Position of the employee of scientific libraryFull namesignature



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Профессиональные базы данных, информационно-справочные системы

1. Электронно-библиотечные системы:

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2023]. – URL: <http://www.iprbookshop.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2023]. - URL: <https://urait.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2023]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2023]. – URL: <https://www.rosmedlib.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2023]. – URL: <https://www.books-up.ru/ru/library/>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2023]. – URL: <https://e.lanbook.com>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС Znanium.com : электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2023]. - URL: <http://znanium.com> . – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

2. КонсультантПлюс [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2023].

3. Базы данных периодических изданий:

3.1. eLIBRARY.RU: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2023]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

3.2. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon) : электронная библиотека / ООО ИД «Гребенников». – Москва, [2023]. – URL: <https://id2.action-media.ru/Personal/Products>. – Режим доступа : для авториз. пользователей. – Текст : электронный.

4. Федеральная государственная информационная система «Национальная электронная библиотека» : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2023]. – URL: <https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

5. Российское образование : федеральный портал / учредитель ФГАУ «ФИЦТО». – URL: <http://www.edu.ru>. – Текст : электронный.

6. Электронная библиотечная система УлГУ : модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

Согласовано:

Ведущий инженер / Шуренко ЮВ / М.С. / 18.05.2023
 Должность сотрудника УИТиТ ФИО Подпись Дата

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12. MATERIAL SUPPORT OF DISCIPLINE

For training the following material support is used: educational audiences for carrying out a practical training and individual consultations, the current control and intermediate certification with a set of the demonstration equipment for ensuring representation of illustrative material for discipline according to the working program.

The room is completed with a set of student furniture on 24 seats.

13. SPECIAL CONDITIONS FOR STUDENTS WITH LIMITED OPPORTUNITIES OF HEALTH

Training students with disabilities is carried out taking into account the peculiarities of psychophysical development, individual capabilities and health of such students. Education of students with disabilities can be organized in conjunction with other students, and separately. If necessary, students from among persons with disabilities (at the request of the student) may be offered one of the following options for the perception of information, taking into account their individual psychophysical characteristics:

- for persons with visual impairment: in printed form in large print; in the form of an electronic document; in the form of an audio file (translation of educational materials into audio format); in printed form in Braille; individual consultations with the involvement of a special translator; individual tasks and consultations.
- for persons with hearing impairment: in printed form; in the form of an electronic document; video materials with subtitles; individual consultations with the assistance of a sign language interpreter; individual tasks and consultations.
- for persons with musculoskeletal disorders: in printed form; in the form of an electronic document; in the form of an audio file; individual tasks and consultations."
- if it is necessary to use partially or exclusively remote educational technologies in the educational process, the organization of work of teaching staff with students with disabilities is provided in an electronic information and educational environment, taking into account their individual psychological characteristics

Developer

Associate professor, PhDs in Medicine /Alabina E.V./ 

The position of the worker

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**LIST OF CHANGES of
Educational plan of discipline " Bases of rational nutrition "
Speciality 31.05.01. «General medicine»**

| № | Content of the change or a link to the attached text of the | Full name of the head of the Department developing the discipline | Signature | Date |
|----------|--|--|---|-------------|
| 1 | Introduction of changes to item C) Professional databases, information and reference systems item 11 "Educational, methodological and information support of the discipline" with the design of Appendix 1 | Горбунов В.И. |  | 22.05.2024 |
| 2 | Introduction of changes to item A) Recommended Literature item 11 "Educational, methodological and information support of the discipline" with the design of Appendix 2 | Горбунов В.И. |  | 22.05.2024 |

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Приложение 1

11. EDUCATIONAL AND METHODOICAL AND INFORMATION SUPPORT OF DISCIPLINE

a) List of recommended literature

main literature:

1. Melnichenko, P. I. Hygiene : textbook / ed. Melnichenko P. I. - Москва : ГЭОТАР-Медиа, 2021. - 512 с. - ISBN 978-5-9704-5919-5. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. – URL : <https://www.studentlibrary.ru/book/ISBN9785970459195.html>

2. FoodHygiene :tutorial / Ю. А. Пфаргер, В. С. Кавешников, В. Н. Серебрякова и др. - Томск : Издательство СибГМУ, 2018. - 132 с. - Текст : электронный // ЭБС "Букап" :[сайт]. - URL : <https://www.books-up.ru/ru/book/food-hygiene-7637970/>

additional literature:

1. Makhova, N. A. Laboratory manual of hygiene for foreign medical students / N. A. Makhova, Zayneeva R. Sh., M. B. Niezmykhamedova ; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Электрон. текстовыедан. (1 файл : 451 КБ). - Ulyanovsk :ULSU, 2017. - Текст на англ. яз. - Загл. с экрана. - Текст : электронный <http://lib.ulsu.ru/MegaPro/Download/MObject/935>

2.Educational and methodological textbook for practical classes on hygiene [Электронныйресурс] / Shashina E.A., Makarova V.V. - М.: ГЭОТАР-Медиа, 2020. Режимдоступа: <http://studentlibrary.ru/book/ISBN9785970452899.html>

educational and methodical literature:

1.**AlabinaE.V.** Methodical instructions for organization of independent work of students for discipline for discipline "Bases of rational nutrition" for specialty 31.05.01 "General medicine" / E. V. Alabina. - Ulyanovsk :UISU, 2022. – Неопубликованный ресурс. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/11496>. - Режим доступа: ЭБСУЛГУ. - Текст :электронный.

AGREED:

Leading specialist

Стадольникова/


signature

2024

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Профессиональные базы данных, информационно-справочные системы

1. Электронно-библиотечные системы:

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2024]. – URL: <http://www.iprbookshop.ru>. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2024]. - URL: <https://urait.ru> . – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2024]. – URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2024]. – URL: <https://www.rosmedlib.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2024]. – URL: <https://www.books-up.ru/ru/library/> . – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2024]. – URL: <https://e.lanbook.com>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС **Znanium.com** :электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2024]. - URL: <http://znanium.com> . – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

2. КонсультантПлюс [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2024].

3. eLIBRARY.RU: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2024]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

4. Федеральная государственная информационная система «Национальная электронная библиотека» : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2024]. – URL:<https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

5. Российское образование: федеральный портал / учредитель ФГАУ «ФИЦТО». – URL: <http://www.edu.ru>. – Текст : электронный.

6. Электронная библиотечная система УлГУ : модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». – URL: <http://lib.ulsu.ru/MegaPro/Web>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

Инженер ведущий



Щуренко Ю.В.

2024