

MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Faculty of medicine, international

Department of Hygiene and Medical Ecology

Syllabus of the academic discipline

"DIETOLOGY"

Scope of the academic discipline	Total number of hours per discipline: 90 hours, 3 credits Semesters: V (VI) 4th year of study.
Days, time, place of educational discipline	According to the schedule of classes. Department of Hygiene and Medical Ecology Odesa, st. Pasteur 11.
Teacher(s)	Professor Babienko Volodymyr Volodymyrovych, Doctor of Medicine, Doctor of Science in Technology Doctor of Medicine Associate Professor Kobolev Yevgeny Volodymyrovych Doctor of Medicine Associate Professor Horoshkov Oleg Vitaliyovych Senior teacher Sheikh Ali Dani Husseynovych Senior teacher Shanygin Anton Viktorovych Senior teacher Vatan Maya Mykolaivna
Contact Information	Help by phone: Sheikh Ali Dani Husseynovych, head teacher of the department 063-765-08-18 E-mail: shejx.ali@onmedu.edu.ua Face-to-face consultations: from 2:00 p.m. to 5:00 p.m. every Thursday, from 9:00 a.m. to 2:00 p.m. every Saturday Online consultations: from 4:00 p.m. to 6:00 p.m. every Thursday, from 9:00 a.m. to 2:00 p.m. every Saturday by appointment. The link to the online consultation is provided to each group during classes separately.

COMMUNICATION

Communication with applicants will be conducted in the classroom (face-to-face).

During distance learning, communication is carried out through the Microsoft Teams platform, as well as through e-mail correspondence, the Telegram messenger (through the created groups for each group, separately through the head of the group).

ABSTRACT OF THE EDUCATIONAL DISCIPLINE

The subject of the discipline is the physiological and biochemical basis of nutrition for a healthy person and for various diseases.

Prerequisites and post-requisites of the discipline (place of the discipline in the educational program):

Prerequisites: Ukrainian language (by professional direction), foreign language (by professional direction), Latin language and medical terminology, medical biology, medical and biological physics, biological and bioorganic chemistry, human anatomy, histology, cytology and embryology, physiology, microbiology, virology and immunology, life safety; basics of bioethics and biosafety, pathomorphology, pathophysiology, pharmacology, propaedeutics of pediatrics, medical psychology, otorhinolaryngology, ophthalmology, neurology, psychiatry, narcology, dermatology, venereology.

Postrequisites: hygiene and ecology, internal medicine, surgery, obstetrics and gynecology, infectious diseases, epidemiology and principles of evidence-based medicine, oncology and radiation medicine, traumatology and orthopedics, phthisiology, anesthesiology and intensive care, emergency and emergency medical care, hygiene and ecology, palliative and hospice medicine, general practice (family medicine).

The goal of the discipline: acquisition of theoretical knowledge, practical skills and abilities in all areas of dietetics, necessary for independent work as a nutritionist

Tasks of the discipline:

The objectives of the study are to increase the level of theoretical and practical training in the following areas:

- Physiology and biochemistry of digestion;
- Estimates of the biological and energy value of the most common types of products and ways to increase them;
- Knowledge of hygienic requirements for food quality and safety;
- Organization and quality control of food in hospitals, sanatoriums preventive clinics, hospices;
- Peculiarities of changes in metabolic processes in the body in various pathological conditions and ways of correcting them with medical nutrition.

As a result of studying the academic discipline, the applicant must:

Know:

- Scientific foundations, modern requirements for the organization of rational nutrition of various contingents of the population and alimentary diseases of systems and organs;
- Features of the directed effect of food components on various systems and organs;
- Modern requirements for the organization of dietary nutrition in diseases of various systems and organs;
- Basics of prevention of food poisoning and protection of food raw materials, food products and ready-made food in LPU;
- methodical approaches: to the rationing of the needs of healthy and sick people in food substances and energy; to the choice of food products when building diets; to the technology of preparing dietary food;
- Methodology for drawing up a menu, calculating the chemical composition and keeping a card file of the layout, seven-day menu (winter and summer version);
- Organization of scrapping of products and ready meals; laboratory control of food products and the state of the food block;
- Control the correctness of documentation by a nurse;
- Basic laws, by-laws and instructive methodological documents in the field of ensuring the safety and quality of used products;
- Forms and methods of work of a dietitian doctor in the organization of nutrition at LPU.

Be able:

- Make a daily menu taking into account the season and the availability of products;
- Organize the work on keeping a card file of dishes;
- Calculate the chemical composition and energy value of rations;
- Carry out work on the evaluation of the effectiveness of dietary nutrition;
- Assess the quality of food products, ready-made food in terms of nutritional and biological value, hygienic indicators;
- Conduct an analysis of the state of medical nutrition and justify recommendations for its improvement;
- Work independently with normative and reference literature on medical and preventive nutrition;
- Use the principles of primary and secondary prevention of the most common non-infectious diseases;
- Organize training of food block staff on hygiene and technology of preparation of medical diets;

- Control the timeliness of medical examinations of food block and cafeteria workers and prevent people from working who have not passed a medical examination, as well as patients with pustular, intestinal diseases and angina.

DESCRIPTION OF THE EDUCATIONAL DISCIPLINE

Forms and methods of education

The discipline will be taught in the form of seminar classes (30 hours); organization of an independent job seeker (60 hours).

Teaching methods: conversation, solving clinical situational problems, working with laboratory devices, solving test problems.

Content of the academic discipline

Topic 1. Nutrition in medical and preventive institutions

The appointment procedure and organization of providing patients with medical nutrition. Quality control of products and ready-made food. Vitaminization of food with ascorbic acid. Special properties of medical cooking. Technology of preparation of medicinal dishes. Organization of dietary nutrition in sanatorium-resort institutions. Organization of dietary nutrition at industrial plants. Selection and referral program for dietary nutrition. Organization of medical nutrition for outpatients.

Topic 2. Basic nutrition of a healthy and sick person

Basic principles of medical nutrition. Tactics of diet therapy: graded system, "zigzag" system. Contrast diets: unloading and loading. Diet of patients. System of medical nutrition: elemental and dietary. Main characteristics of diets: indications for use; target (therapeutic) purpose; energy value and chemical composition; peculiarities of culinary processing of food; diet; a list of prohibited and recommended foods. Characteristics of the main therapeutic number diets according to Pevzner. Characteristics of the new system of standard diets (2003): standard diet, diet with mechanical and chemical sparing, high-protein diet, low-protein diet, low-calorie diet. Comparison of numbered and standard diet systems

Topic 3. System of standard diets in the medical organization, surgical diets, unloading and specialized diets, special diets

Ensuring the patient's needs for nutrients and energy. Therapeutic nutrition is built on the basis of physiological nutritional norms, but the amounts of energy and nutrient requirements depend on the pathogenesis, clinical course, stage of the disease, the nature of metabolic, functional and organic disorders characteristic of various diseases. Thus, in therapeutic diets, corrections are made to the balance of nutrients recommended for healthy people.

Topic 4. Organizational basics of nutrition in medical and preventive institutions.

Order of the Ministry of Health of Ukraine

10/29/2013 No. 931 Registered with the Ministry of Justice of Ukraine on December 26, 2013 under No. 2206/24738

Therapeutic nutrition is carried out in accordance with the principles and methodologies determined by the Procedure for the Organization of the System of Therapeutic Nutrition for Patients in Health Care Institutions, approved by Order No. 931 of the Ministry of Health of Ukraine dated October 29, 2013.

Topic 5. Rational nutrition. Basic principles and rules.

Rational balanced nutrition is a physiologically complete nutrition of a person taking into account his gender, age, nature of work, climate-geographical conditions, and individual characteristics. It provides the body with timely supply of tasty food containing nutrients - proteins, fats, carbohydrates, vitamins, macro- and microelements, which a person should receive in the optimal amount for the body and in certain ratios, which ensures the normal functioning of all systems and organs.

Topic 6. Therapeutic nutrition is a factor in therapy and secondary prevention of diseases.

Food components - some protein amino acids, vitamins provide a protective effect when the body is exposed to harmful chemical compounds and physical environmental factors (heavy metals, pesticides, nitrosamines, radionuclides, etc.). It has been proven that the body's resistance not only to foreign compounds (xenobiotics), but also to infections depends on the nature of nutrition, especially on the protein and vitamin composition of food.

Topic 7. Nutrition as a medical, social and economic problem

The concept of health includes normal physical and mental development, absence of diseases and hidden painful conditions, normal reproductive function in childbearing age. Health is the harmony and unity of physical, mental, spiritual, emotional and social functions. In the charter of the World Health Organization, it is written that health is a state of complete physical, moral and social well-being, and not just the absence of diseases or physical defects.

Among the factors shaping human health, nutrition accounts for 40-45%, human genetics - 18; health care - 10; environmental factors - 8 and others - 19-24.

Razenzov I.P. paid great attention to the role of nutrition and pointed out that, unlike other environmental factors, food is the most complex, multi-component factor. Depending on the properties and composition, food affects the body in different ways. With its help, we can change the function and trophism of tissues, organs, systems of the body as a whole arbitrarily, either by strengthening them or by weakening them.

Topic 8. Modern ideas about the biological role of nutrients and their importance in the metabolism of substances in the body in normal and pathological conditions

According to modern ideas, food performs important functions in the human body.

Maintaining them at an adequate human exo- and endoecology level ensures the stability of the body's internal environment and guarantees a person good health.

It is known that human food is a multicomponent factor of the environment, containing more than 600 substances necessary for the normal functioning of the body. Each of these substances occupies a certain place in the complex harmonious mechanism of biochemical processes and contributes to the use of food in various processes human activities. 96% of organic and inorganic compounds obtained with food have one or another medicinal properties. Therefore, a person's health depends on the quantity and ratio of these substances in the diet.

Topic 9. Physiology and pathophysiology of digestion

In the process of life, the human body constantly consumes energy and various substances. The source of their replenishment is nutrients (food products), which come mainly from the external environment. Prolonged interruption of the supply of nutrients leads to the death of the organism. The function of food processing (digestion) in the body is performed by the digestive system. The organs of the digestive system include: alimentary canal, pancreas, liver and gall bladder. The human digestive system begins with the oral cavity, followed by the pharynx, esophagus, stomach, small and large intestines. The alimentary canal ends with the anus. The length of the alimentary canal is 8–10 m. The alimentary system performs 3 main functions: motor, secretory and absorption (resorption).

Topic 10. Hygienic requirements for food products and expertise

Sanitary and hygienic examination of food products and food raw materials is an important means of preventing food poisoning among the population of Ukraine. Basically

indicators of their safety are the permissible levels of the content of substances of chemical and biological origin dangerous to health and life. Sanitary and hygienic measures

need further improvement at the legislative level.

Topic 10. Diseases of the cardiovascular system and diet therapy

A sedentary lifestyle and an abundance of fatty, refined food lead to obesity and problems with blood vessels. Therefore, prevention and treatment of cardiovascular diseases are closely related to lifestyle correction and diet control

Topic 11 Diseases of the kidneys, urinary tract and diet therapy

Quantitative and qualitative changes in nutrition are an integral part of the treatment of kidney diseases. One of the main goals is to achieve and maintain a normal body weight, as both obesity and underweight are associated with increased mortality. Obesity is a recognized cardiovascular risk factor and often coexists with hypertension and dyslipidemia, as well as accelerates the progression of chronic kidney disease.

Topic 12. Diseases of the endocrine system, metabolic disorders, diet therapy

Most autoimmune diseases, including thyroid diseases, depend on the nature of nutrition. According to research, 1/3 of the risk of developing an autoimmune disease depends on genetic predisposition, and 2/3 on nutrition, lifestyle and environmental factors (epigenetics). It has been scientifically proven that the use and refusal of certain food products helps not only to influence the body's immune response to its own organ, but also to enter a stable remission.

Topic 13. Respiratory diseases and diet therapy

Dietary nutrition plays an important role in the comprehensive therapy of respiratory diseases. It is built individually taking into account the nature of the main process and its pathogenetic mechanisms, complications and associated diseases. It is necessary to remember the possible involvement in the pathological process of the cardiovascular system with the development of the pulmonary heart and insufficiency of blood circulation according to the right ventricular type. In particular, with emphysema of the lungs, medical nutrition is mainly prescribed based on the functional state of the cardiovascular system

Topic 14. Nutrition for some surgical diseases

In the postoperative period, the final result of the treatment depends on a rational diet - the timely recovery of the patient. Nutrient deficiencies significantly slow down wound healing and can lead to a worsening of the patient's condition. In turn, a sufficient diet serves as a guarantee of high tolerance to surgical trauma, an increase in the level of immune reactions and adequate reparative processes. Satisfaction of the energy and plastic needs of the body of a surgical patient is provided by a balanced diet. This is understood as the intake of a sufficient amount of proteins, fats and carbohydrates to the body in accordance with energy expenditure, which increases in a pathological condition due to an increase in the basic metabolism

Topic 15. Diet therapy for concomitant lung diseases

Often, with lung disease, the alveoli are affected and there is breathing disorder. Treatment depends on the etiology, different types of medicines can be used, but diet is often forgotten. After all, it is precisely the right nutrition that will help to get rid of the disease faster and restore the body's strength.

Topic 16. Diseases of digestive organs and diet therapy

Among the most common diseases of the digestive organs are gastritis, peptic ulcer disease, gallstone disease, pancreatitis and colon cancer. Improper nutrition or a violation of the diet plays almost the main role in the development of these diseases.

Adjusting the diet helps both in the treatment process and in the recovery process of the body after PE relapsing disease and provides prevention of relapses.

Topic 17. Nutrition of pregnant and lactating women

Rational nutrition is one of the most important conditions for a favorable course of pregnancy, childbirth, and fetal development. It plays an important role in the prevention of anemia, delayed fetal development, and birth defects.

Topic 18. Food allergy and intolerance of some food components

Food allergy is a systemic immune reaction of the body that occurs after consumption of certain products. Worldwide, more than 250 million people suffer from food allergy, in particular, 17 million in Europe. It is estimated that more than three percent of adults and up to six percent of children have food allergies. During a food allergy, the immune system mistakenly recognizes certain foods or substances in foods as something dangerous. Accordingly, the immune system prompts the cells to secrete antibodies known as immunoglobulin E to neutralize the allergens that caused the reaction. Knowledge of types of food allergies and food products that most often cause them is necessary for doctors of practical medicine.

Topic 19. Daily nutritional norms of patients in a medical organization, sanatoriums, preventive clinics

Nutritional norms in medical and preventive institutions are an integral component in the treatment and prevention of diseases of various nosologies. The main task in the preparation of daily nutritional norms for patients is to establish a balance between the physiological need for nutrients and energy (according to the requirements of rational nutrition) and the ability of an unhealthy organism to effectively dispose of them.

Topic 20. Interchangeability of products when preparing dietary dishes, replacement of products by proteins and carbohydrates

Order of the Ministry of Health of Ukraine 29.10.2013 No. 931 "Instruction on the organization of medical nutrition in health care institutions". Appendix 1 "Interchangeability of products when preparing dietary dishes"

Topic 21 Quality composition of food products. Importance of proteins, fats and carbohydrates in the diet. Vitamins, micro- and macroelements.

The quality of food products is a set of properties of goods that determine their suitability to satisfy certain human needs. A balanced diet is based on a solid foundation, which consists of three main and indispensable components: proteins, fats and carbohydrates. Each of them performs a certain role in the human body, just like vitamins, which also enter the human body with food and are of great importance in the formation of human health.

Topic 22. Management, structure and organization of medical nutrition in medical and preventive institutions

Order of the Ministry of Health of Ukraine 29.10.2013 No. 931 "Instruction

on the organization of medical nutrition in health care institutions"

Recommended literature

1. Hygiene and ecology // textbook for students of higher medical educational institutions in English. /edited by V.G. Bardova – Vinnytsia: NovaKnyga, 2018.
2. Environmental Health: from Global to Local \ Under Howard Frumkin edition – Third edition. - San Francisco, 2016
3. General hygiene. Hygiene propaedeutics// Textbook for foreign students. / E.I. Honcharuk, Yu.I. Kundiev, V.G. Bardov et al. - K.: Vyshcha shkola, 2000.
4. Korobchanskiy V.A. Hygiene and Ecology \ Korobchanskiy V.A., Vorontsov V.P., Musulbas A.A. - Kharkov, 2006

Information resources:

http://www.merck.com/pubs/mm_geriatrics

<http://www.antibodyresource.com/>.

EVALUATION

Current control: oral survey, testing, solution of situational tasks, assessment of class activity.

Evaluation of the current educational activity in a practical session:

1. Evaluation of theoretical knowledge on the subject of the lesson:

- methods: survey, solving a situational problem
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

2. Assessment of practical skills on the topic of the lesson:

- methods: assessment of the correctness of the performance of practical skills
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The grade for one practical session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current evaluation criteria in practical training

Evaluation	Evaluation criteria
«5»	The applicant is fluent in the material, takes an active part in discussing and solving the situational problem, confidently demonstrates practical skills during

	laboratory research, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
«4»	The applicant has a good command of the material, participates in the discussion and solution of the situational problem, demonstrates practical skills during laboratory and research with some errors, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
«3»	The applicant does not have sufficient knowledge of the material, is unsure of participating in the discussion and solving the situational problem, demonstrates the practical skills of laboratory research with significant errors.
«2»	The applicant does not possess the material, does not participate in the discussion and solution of the situational problem, does not demonstrate the practical skills of laboratory research.

Final control: credit

Applicants of higher education who do not have academic debt and whose average score is not lower than 3.0 (120 points) are admitted to the credit.

Assessment is carried out for students in the last lesson of the educational component through an oral survey and testing. It is evaluated on a two-point scale:

- the grade "passed" is given to the applicant who has completed the work program of the educational component, has no academic debt, passed the credit from the educational component; the level of competence is high (creative);
- the grade "failed" is given to the applicant who has not completed the work program of the educational component, has academic debt (average score lower than 3.0 (120 points) and/or missed classes); the level of competence is low (receptive-productive)

INDEPENDENT WORK OF HIGHER EDUCATION ACQUIRES

Independent work involves preparation for each practical session.

EDUCATIONAL DISCIPLINE POLICY

Deadlines and Rescheduling Policy:

- Absences of classes for non-respectable reasons are worked out according to the schedule of the teacher on duty.
- Absences due to valid reasons are processed according to an individual schedule with the permission of the dean's office.

Academic Integrity Policy:

Applicants must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in the case of using ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are:

- using family or official ties to obtain a positive or higher grade during any form of control of learning outcomes or academic performance;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- passing procedures for control of training results by fake persons.

For violation of academic integrity, students may be held to the following academic responsibility:

- a decrease in the results of assessment of control work, assessment in class, credit, etc.;
- retaking the assessment (control work, credit, etc.);
- appointment of additional control measures (additional individual tasks, control works, tests, etc.);
- conducting an additional inspection of other works authored by the violator.

Attendance and Tardiness Policy:

Uniform: medical gown

Equipment: notebook, pen.

State of health: applicants suffering from acute infectious diseases, including respiratory diseases, are not allowed to attend classes.

A student who is late for class can attend it, but if the teacher has put "nb" in the journal, he must complete it in the general order.

Use of mobile devices:

Mobile devices may be used by students with the permission of the instructor if they are needed for the assignment.

Behavior in the audience:

The behavior of applicants and teachers in the classrooms should be working and calm, strictly comply with the rules established by the Regulations on academic integrity and ethics of academic relations at the Odessa National Medical University, in accordance with the Code of Academic Ethics and University Community Relations of the Odessa National Medical University, Regulations on the Prevention and Detection of Academic plagiarism in research and educational work of students of higher education, scientists and teachers of Odesa National Medical University.