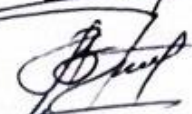


Ministry of Education and Science of Ukraine
Petro Mohyla Black Sea National University
Faculty of Physical Education and Sports
Department of Medical and Biological Fundamentals of Sports and Physical Education
and Sports Rehabilitation



Course Curriculum
Dietetics and modern aspects of nutrition science
Field of Study : 01 Education
Specialty: A7 Physical Culture and Sport

Developed by		LILIIA MUNTIAN
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Description of the discipline

Найменування показника	Characteristics of the discipline	
Indicator name	Dietetics and modern aspects of nutrition science	
Field of expertise:	01 Education	
Speciality:	A7 Physical Culture and Sport	
Level of higher education	Master	
Discipline status	Elective discipline	
Course of study	5	
Academic year	2025/2026	
Semester Number	Full-time	Part-time
	10	
Number of credits/hours	3 credits / 90 hours	
Course structure:	Full-time	
	15	
	15	
– hours of students' independent work	60	
Percentage of Classroom Load	33 %	
Language of instruction	English	
Form of final control	Passed /test	

2. Purpose and objectives of the discipline

The purpose of the course: to form students' skills and abilities in organizing the nutrition system of a healthy and sick person at different age stages through the application of modern scientific provisions of nutrition and in the organization of nutrition in medical and preventive, health and educational institutions, as well as methods of prevention with the help of a specially selected diet.

The main tasks of studying the discipline " Dietetics and modern aspects of nutrition science " are:

Theoretical:

- know the basics of physiology and biochemistry of nutrition, rational nutrition of various age and professional groups of the population;
- substantiate the principles of prevention of food poisoning, acute intestinal infections and diseases of alimentary origin;
- to find out the current problems of modern trends in the physiology of nutrition and to establish their connection with the health and working capacity of the population;

Practical:

- be able to calculate the physiological need of the body for food and biologically active substances;
- provide a justification for the energy value and nutrient composition diet;
- identify the nutritional status of the body and its disorders;
- be able to develop practical recommendations for the organization of rational nutrition of different population groups;
- evaluate food products according to hygienic indicators, results bacteriological and toxicological examination and formulation

1.3. Number of credits 3

1.4. Total number of hours 90

Prerequisites for the study of the discipline (interdisciplinary relations): the academic discipline is based on the study of anatomy, physiology, biology by students,

Expected learning outcomes. As a result of studying the discipline, students have:

- possess methodical tools for the implementation of laws rational and health-improving nutrition, requirements for the diet, diet and eating conditions;

- analyze the nutrition of individuals depending on age, gender, type of activity;
- to make a diet taking into account the characteristics of individual population groups;
- determine the energy value of food;
- calculate the energy expenditure of healthy people;
- determine the basic metabolism of a person;
- determine the daily expendable energy depending on the physical human activity;
- determine the daily requirement of proteins, fats, carbohydrates, minerals substances, vitamins;
- explain different theories, concepts and schools of nutrition;
- promote the principles of healthy eating.

According to the requirements of the educational and professional program, students must:

KNOW:

- the role of nutrition in the functioning of the main systems of the human body
- basic anatomical and physiological data on structure and function digestive organs;
- physiological significance of food components - proteins, lipids, carbohydrates, vitamins, minerals and their optimal needs according to the state of the organism under specific conditions of existence;
- physiological need of a healthy person for basic nutrients;
- basic theories of nutrition: rational, balanced, adequate, differentiated, individual, regime value food;
- characteristics of the concepts of nutrition by P. Bragg, G. Shelton, vegetarianism, etc.;
- health-improving effect of food products on the human body;
- the importance of bee products and their uses;
- the basics of dietetics, the characteristics of the main diets, the organization of nutrition for people from different segments of the population;
- Fundamentals of Nutrition for Athletes.

ABILITY:

- determine the energy value of food products;
- calculate the energy expenditures of healthy individuals;
- determine the basal metabolism of a person;
- determine daily energy expenditure based on physical activity;
- calculate daily requirements for proteins, fats, carbohydrates, minerals, and vitamins;
- explain various theories, concepts, and schools of nutrition;
- promote the principles of healthy eating.

COMPETENCE:

- ability to solve complex specialized tasks and practical problems related to training, pre-competitive, competitive, and recovery periods using pharmaceutical means;
- ability to solve complex specialized tasks and practical problems in the professional activities of an athlete, involving the application of specific knowledge from the relevant field of science;
- application of discipline knowledge to promote a healthy lifestyle and prevent the onset and development of diseases in athletes.

Integral Competence (IC)	Ability to solve research and/or innovative problems in the field of physical education and sports
General Competences (GC)	GC 2. Ability to search, process and analyze information from various sources. GC 3. Ability to adapt and act in a new situation.
Specialized (Professional, Subject) Competences (SC)	SC 8. The ability to implement the results of scientific research aimed at solving applied problems in the field of physical culture and sports into practical activities.

ΠΙΡΗ 3.	Freely discuss the results of professional activities, research and innovative projects in the field of physical culture and sports in the state and foreign languages, orally and in writing.
ΠΙΡΗ 5.	Develop and teach specialized academic disciplines in higher education institutions.
ΠΙΡΗ 12.	Effective interaction with various social groups to promote physical culture and sports, develop programs to encourage a healthy lifestyle.

3. Structure of the Educational Discipline

The organization of the educational process is carried out using the European Credit Transfer and Accumulation System (ECTS).

Titles of content modules and topics	Number of hours			
	Ju st	у тому числі		
		Le ct ur e	Sem inars	Inde pend ent wor k
1	2	3	4	5
Topic 1. Rational nutrition as a component of a healthy lifestyle. • Dietetics, nutrition and trophology. • Food functions. • The influence of lifestyle on hormonal levels and metabolism. • The concept of rational nutrition. Poison Food and Dangerous "E" Additives	6	2		4
Topic 2. Protein component in the human diet. • The percentage of animal and vegetable protein in the daily diet. • Signs of lack and excess of protein in the diet. The role of essential amino acids in metabolism.	6	2		4
Topic 3. Carbohydrate intake rates and their types. • Healthy and unhealthy carbohydrates. • Amount of carbohydrates for weight loss, maintenance and loss. • Glycemic and insulin index, glycemic load. • The role of fiber, its varieties and permissible amount. Metabolic disorders (diabetes mellitus, insulin resistance, hyperinsulinism, metabolic syndrome).	6	2		4
Topic 4. Criteria for choosing healthy fats. • Fats and a feeling of satiety. • Consequences of excess and lack of fats in the body. • Types of fatty acids, their effect on cholesterol levels and atherosclerosis. • Characteristics of vegetable oils in terms of composition and method of production. Consumption rates, balance of animal and vegetable fats.	6	2		4
Topic 5. The effect of vitamins and minerals on metabolism. • Vitamins and vitamin-like substances. • Macro- and microelements. • Signs of hypo- and hypervitaminosis. • Consequences of mineral deficiency. Their role is in maintaining metabolism, hormonal and reproductive health.	6	2		4
Topic 6. Functions of different parts of the gastrointestinal tract. Digestive pathologies. Ways to speed up metabolism. • Well-coordinated work of the gastrointestinal tract is the key to healthy digestion. • Gastrointestinal disorders and their prevention. • Types of digestion. How to speed up metabolism?	6	2		4
Topic 7. Features of nutrition in hormonal disorders. • The effect of hormones on metabolism. • Symptoms and consequences of elevated cortisol levels. • Thyroid and parathyroid hormones, their functions. • General manifestations of endocrine disorders. Nutrition for thyroid diseases.	6	2		4

Topic 8. The effect of nutrient deficiencies on cell renewal in the human body. • Basic laws of nutritional physiology. • Problems of nutrition of modern man. Correction of metabolism at the cellular level with the help of dietary supplements	6	1		4
Topic 1. Enrichment of the diet with antioxidants, their types. • Free radicals, the importance of their neutralization. • Acidosis - acidification of the body, its causes. • The concept of buffer systems. • The role of antioxidants in maintaining immunity, preventing cancer and inflammatory diseases, and losing weight. • Types of antioxidants, their effectiveness. Bioflavonoids.	6		2	4
Topic 2. Analysis of errors in weight loss. Natural Weight Correction System. • Analysis of the main disadvantages of popular diets. • Indications and contraindications for fasting. • Naturopathy and macrobiotic nutrition. • A systematic approach to weight loss without harm to health. • Principles of diet construction using the lamellar model. Patented natural weight correction system.	6		2	4
Topic 3. The system of working with the body from A to Z. How to start working with a client. • Anthropometric measurements. • What tests to pay attention to. • How to keep a food diary. • Drawing up a weight correction program. Selection of supplements by type of overeating.	5		2	3
Topic 4. Psychological bases of weight correction. • Understanding of nutritional psychology. • Taking into account the psychological state. • Psychological Tone Scale. • Goal-setting. • How to set a weight management goal. Psychological techniques for relieving stress and food cravings.	5		2	3
Topic 5. The concept of calorie content of the diet. • Formulas for calculating the calorie content of the daily diet. • Ways to reduce the calorie content of the diet. • Foods with a "negative" calorie content. Is it possible to do without counting calories.	5		2	3
Topic 6. Principles of separate nutrition. Physiological explanation of the principles of separate nutrition. • Combinations for strong, weak and diseased digestion. • Peculiarities of nutrition of representatives of different blood groups. • Blood type and stomach acidity. • The concept of antigens and antibodies. Useful, neutral and harmful products for representatives of different blood types.	5		2	3
Topic 7. Principles of compiling a therapeutic diet. • Oncoprotective and lipid-lowering diets. • The effect of aromas on appetite. Useful properties of spices, role in metabolism and digestion.	5		2	3
Topic 8. Criteria for choosing allergy products. • Immunity and allergies. • Difference from fermentopathy. • Types of immune response and autoimmune diseases. • Forbidden foods for various types of allergies.	5		1	3

Hypoallergenic foods and foods that increase allergies.				
Total Hours	90	15	15	60

4. Meaningful disciplines

4.1. Lecture plan

№ п/п	Topics	Number of hours
1.	Topic 1. Rational nutrition as a component of a healthy lifestyle. • Dietetics, nutrition and trophology. • Food functions. • The influence of lifestyle on hormonal levels and metabolism. • The concept of rational nutrition. Poison Food and Dangerous "E" Additives	2
2	Topic 2. Protein component in the human diet. • The percentage of animal and vegetable protein in the daily diet. • Signs of lack and excess of protein in the diet. The role of essential amino acids in metabolism.	2
3	Topic 3. Carbohydrate intake rates and their types. • Healthy and unhealthy carbohydrates. • Amount of carbohydrates for weight loss, maintenance and loss. • Glycemic and insulin index, glycemic load. • The role of fiber, its varieties and permissible amount. Metabolic disorders (diabetes mellitus, insulin resistance, hyperinsulinism, metabolic syndrome).	2
4	Topic 4. Criteria for choosing healthy fats. • Fats and a feeling of satiety. • Consequences of excess and lack of fats in the body. • Types of fatty acids, their effect on cholesterol levels and atherosclerosis. • Characteristics of vegetable oils in terms of composition and method of production. Consumption rates, balance of animal and vegetable fats.	2
5	Topic 5. The effect of vitamins and minerals on metabolism. • Vitamins and vitamin-like substances. • Macro- and microelements. • Signs of hypo- and hypervitaminosis. • Consequences of mineral deficiency. Their role is in maintaining metabolism, hormonal and reproductive health.	2
6	Topic 6. Functions of different parts of the gastrointestinal tract. Digestive pathologies. Ways to speed up metabolism. • Well-coordinated work of the gastrointestinal tract is the key to healthy digestion. • Gastrointestinal disorders and their prevention. • Types of digestion. How to speed up metabolism?	2
7	Topic 7. Features of nutrition in hormonal disorders. • The effect of hormones on metabolism. • Symptoms and consequences of elevated cortisol levels. • Thyroid and parathyroid hormones, their functions. • General manifestations of endocrine disorders. Nutrition for thyroid diseases.	2
8	Topic 8. The effect of nutrient deficiencies on cell renewal in the human body. • Basic laws of nutritional physiology. • Problems of nutrition of modern man. Correction of metabolism at the cellular level with the help of dietary supplements	1

4.2. Seminar Session Plan

An effective form of organizing education in higher education is seminar sessions, which are organically combined with lectures.

Conducting seminar sessions allows achieving the following didactic goals:

- Optimal combination of lecture sessions with systematic independent learning and cognitive activity of students, bridging their theoretical preparation with practical application.
- Development of skills, cognitive work abilities, creative thinking, and the ability to apply theoretical knowledge to solve practical tasks.
- Cultivation of students' interest in research work and involvement in scientific research conducted by the department.
- Formation of skills and abilities for various types of future professional activities.
- Diagnosis and control of students' knowledge in specific sections and topics of the program, fostering skills and abilities for different types of future professional activities.

№ п/п	Topics	Numbe r of hours
1.	Topic 1. Enrichment of the diet with antioxidants, their types. • Free radicals, the importance of their neutralization. • Acidosis - acidification of the body, its causes. • The concept of buffer systems. • The role of antioxidants in maintaining immunity, preventing cancer and inflammatory diseases, and losing weight. • Types of antioxidants, their effectiveness. Bioflavonoids.	2
2.	Topic 2. Analysis of errors in weight loss. Natural Weight Correction System. • Analysis of the main disadvantages of popular diets. • Indications and contraindications for fasting. • Naturopathy and macrobiotic nutrition. • A systematic approach to weight loss without harm to health. • Principles of diet construction using the lamellar model. Patented natural weight correction system.	2
3.	Topic 3. The system of working with the body from A to Z. How to start working with a client. • Anthropometric measurements. • What tests to pay attention to. • How to keep a food diary. • Drawing up a weight correction program. Selection of supplements by type of overeating.	2
4.	Topic 4. Psychological bases of weight correction. • Understanding of nutritional psychology. • Taking into account the psychological state. • Psychological Tone Scale. • Goal-setting. • How to set a weight management goal. Psychological techniques for relieving stress and food cravings.	2
5.	Topic 5. The concept of calorie content of the diet. • Formulas for calculating the calorie content of the daily diet. • Ways to reduce the calorie content of the diet. • Foods with a "negative" calorie content. Is it possible to do without counting calories.	2
6.	Topic 6. Principles of separate nutrition. Physiological explanation of the principles of separate nutrition. • Combinations for strong, weak and diseased digestion.	2

	• Peculiarities of nutrition of representatives of different blood groups. • Blood type and stomach acidity. • The concept of antigens and antibodies. Useful, neutral and harmful products for representatives of different blood types.	
7.	Topic 7. Principles of compiling a therapeutic diet. • Oncoprotective and lipid-lowering diets. • The effect of aromas on appetite. Useful properties of spices, role in metabolism and digestion.	2
8.	Topic 8. Criteria for choosing allergy products. • Immunity and allergies. • Difference from fermentopathy. • Types of immune response and autoimmune diseases. • Forbidden foods for various types of allergies. Hypoallergenic foods and foods that increase allergies.	1
Just		15

4.3. Assignments for Independent Work

Tasks of a theoretical nature are assigned for students' independent work, which are not thoroughly covered during lectures and seminar sessions. Students are required to study literary sources and be prepared to answer questions during practical sessions and exams. Practical assignments include tests and problems.

№ п/п	Topics	Number of hours
1.	Recommendations for the nutrition of athletes.	3
2.	Tasks of sports nutrition.	3
3.	Consumption rates in various sports.	3
4.	Features of athletes' physiology.	3
5.	Preparation for competitions, hypercompensation of muscle glycogen, increased performance, entry into the weight category.	3
6.	Nutrition in bodybuilding athletes with different body types: ectomorphs, mesomorphs and endomorphs.	3
7.	Vegetarianism. Historical tradition. Basic provisions of vegetarianism. Types of vegetarianism: lacto-vegetarianism, ovo-lactate vegetarianism. Physiological aspects of vegetarianism. Age-related prerequisites for vegetarianism. Criticism of vegetarianism. Health and therapeutic value of vegetarianism. Mechanism of regulation of the acid-base reaction by nutrition. Effects of natural juices: anti-inflammatory, anthelmintic, antiseptic, hypotensive, tonic, diuretic. Natural juices are a source of vitamins C, A and minerals.	3
8.	Therapeutic fasting. Functions of therapeutic fasting. Mechanism of therapeutic fasting. Short-term daily fasting. Method of unloading and dietary therapy. Conditions for organizing therapeutic fasting. Contraindications to therapeutic fasting. Features of the restoration of rational nutrition after therapeutic fasting.	3
9.	Separate meals. Chemical basis of the separate power supply system. The energy basis of separate nutrition. Physiology of digestion from the standpoint of separate nutrition. Basic principles of separate nutrition. G. Shelton's theory. Separate power supply technology. Food combinations according to G. Shelton. Indications and contraindications for separate nutrition. Lactotherapy: specific and non-specific. Historical and national aspects of lactotherapy. Types and health qualities of dairy products. Features of koumiss therapy	3
10.	Milk diet by S. Botkin. Indications and contraindications for lactotherapy. Juice therapy. Principles of using juice therapy. The use of natural juices to detoxify the body. Qualitative and quantitative ratios of natural juices for various diseases.	3
11.	Types of juices: natural, with added sugar, clarified and unclarified. Blended juices. Nectars are juices with pulp and sugar. Juice production technology. Enotherapy and ampelotherapy. Grapes as a source of therapeutic natural factors.	3
12.	Apitherapy. The history of the development of apitherapy. Features of physicochemical composition and biological effects of bee products. Indications and contraindications for the use of bee products. Technologies for the use of bee products. Folk food traditions. Ukrainian cuisine.	3
13.	R. Atkins diet. Indications and contraindications. Principles of the 4 phases of the diet: induction, continued weight loss, preliminary weight stabilization, maintaining a stable weight. Foods recommended at each stage of the diet.	3
14.	M. Montignac diet. Theory of glycemic indexes. Limitation of heat treatment of food. Indications and contraindications. Features of 2 phases of the diet: rapid weight loss and stabilization of the result. Drawing up a menu for the first and second phases of the diet	3
15.	Rational nutrition of children of different age groups	3
Just:		60

Typical test questions for solving during practical sessions:

(Sample)

1.1. The development of exogenous-constitutional obesity is influenced by:

1. Imbalance between the intake of energy material into the body and its consumption.
2. Unbalanced nutrition (significant predominance of carbohydrates or fats).
3. Reduction in physical activity.
4. Genetic predisposition. Choose the correct answers:
 - A. If 1, 2, and 3 are correct.
 - B. If 1 and 2 are correct.
 - C. If 2 and 4 are correct.
 - D. If 4 is correct.
 - E. If all answers are correct.

1.2. A positive energy balance in individuals with obesity under normal nutrition is determined by:

1. Inadequate utilization of fats in the body.
2. Increased formation of fat from carbohydrates.
3. Decreased energy requirements due to reduced heat loss.
4. Decreased physical activity. Choose the correct answer:
 - A. If 1, 2, and 3 are correct.
 - B. If 1 and 3 are correct.
 - C. If 2 and 4 are correct.
 - D. If 4 is correct.
 - E. If all answers are correct.

1.4. Obesity is often observed in which endocrine disorders?

1. Cushing's disease.
2. Hypogonadism.
3. Hypothyroidism.
4. Hypocorticism. Choose the correct answer:
 - A. If 1, 2, and 3 are correct.
 - B. If 1 and 3 are correct.
 - C. If 2 and 4 are correct.
 - D. If 4 is correct.
 - E. If all answers are correct.

1.5. Obesity is a risk factor for the development of:

1. Diabetes mellitus.
2. Hypertension.
3. Gallstone disease.
4. Thyrotoxicosis. Choose the correct answers:
 - A. If 1, 2, and 3 are correct.
 - B. If 1 and 3 are correct.
 - C. If 2 and 4 are correct.
 - D. If 4 is correct.
 - E. If all answers are correct.

1.6. Metabolic disorders characteristic of individuals with obesity include:

1. Increased liposynthesis.
2. Hyperinsulinism.
3. Decreased pyrolysis processes.
4. Increased utilization of non-esterified fatty acids. Choose the correct answer:
 - A. If 1, 2, and 3 are correct.
 - B. If 1 and 3 are correct.
 - C. If 2 and 4 are correct.

- D. If 4 is correct.
- E. If all answers are correct.

0.13. A patient with obesity requires consultation with:

- 1. Neurologist.
- 2. Ophthalmologist.
- 3. Gynecologist.
- 4. Otolaryngologist. Choose the correct answer:
- A. If 1, 2, and 3 are correct.
- B. If 1 and 3 are correct.
- C. If 2 and 4 are correct.
- D. If 4 is correct.
- E. If all answers are correct.

1.25. Obesity more often develops in:

- A. Boys.
- B. Girls.
- C. Infancy.
- D. Prepubertal and pubertal periods.
- E. The first days of life.

1.26. In the case of first-degree obesity, excess body weight constitutes:

- A. 10–29%.
- B. 30–49%.
- C. > 50%.
- D. > 100%.
- E. < 10%.

1.27. In the case of second-degree obesity, excess body weight constitutes:

- A. 10–29%.
- B. > 50%.
- C. < 10%.
- D. 30–49%.
- E. > 100%.

1.28. In the case of third-degree obesity, excess body weight constitutes:

- A. 10–29%.
- B. 50–99%.
- C. < 10%.
- D. > 100%.
- E. > 200%.

0.32. Body mass index is calculated as:

- A. Body mass (kg) / body surface area (m²).
- B. Body mass (kg) / height (cm).
- C. Body mass (kg) – height (cm).
- D. Body mass (kg) / height (m²).
- E. Body mass (kg) + height (cm).

0.35. The obesity syndrome is observed in:

- A. Lipomatosis.
- B. Hypothyroidism.
- C. Hypogonadism.
- D. None of the answers is correct.
- E. All of the answers A, B, C are correct.

1.37. How many degrees of obesity are distinguished?

- A. Two.
- B. Four.
- C. Three.
- D. Six.
- E. Eight.

1.38. If the body mass index (BMI) is less than 18.5, what should you consider?

- A. Excessive body weight.
- B. Normal body weight.
- C. Excess body weight.
- D. First-degree obesity.
- E. Second-degree obesity.

1.39. If the body mass index (BMI) is between 18.5 and 24.9, what should you consider?

- A. Insufficient body weight.
- B. Normal body weight.
- C. Excess body weight.
- D. First-degree obesity.
- E. Second-degree obesity.

1.40. If the body mass index (BMI) is between 25.0 and 29.9, what should you consider?

- A. Insufficient body weight.
- B. Normal body weight.
- C. Excess body weight.
- D. First-degree obesity.
- E. Second-degree obesity.

1.41. The diagnosis of abdominal obesity is established with a waist circumference in women above:

- A. 90 cm.
- B. 88 cm.
- C. 110 cm.
- D. None of the answers is correct.
- E. Answers A, B, C are correct.

1.42. The diagnosis of abdominal obesity is established with a waist circumference in men above:

- A. 90 cm.
- B. 88 cm.
- C. 102 cm.
- D. All answers are correct.
- E. Answer C.

1.43. From the diet for the treatment of obesity, they exclude:

- A. Fast carbohydrates.
- B. Slow carbohydrates.
- C. Fiber.
- D. Dairy products.
- E. All answers are correct.

1.44. Psychological aspects of obesity treatment include:

- A. Autotraining.
- B. Group sessions.
- C. Hypnosis.
- D. None of the answers is correct.
- E. Answers A, B, C are correct.

1.45. Endocrine obesity does not include:

- A. Hypothyroid.
- B. Gynoid.
- C. Hypoovarian.
- D. Hypothalamic.
- E. Adipose-genital.

1.46. Secondary obesity is classified as everything except:

- A. Hypothalamo-hypophyseal.
- B. Cerebral.
- C. Endocrine.
- D. Apimentary.
- E. All answers are correct.

0.48. Cerebral obesity can be caused by:

- A. Tumors, head injuries.
- B. Mental illnesses.
- C. Systemic brain damage.
- D. Infectious diseases.
- E. All answers are correct.

0.50. What amount of reserve fat in a person is considered normal:

- A. 10–20%.
- B. 40–50%.
- C. 30–40%.
- D. 1–5%.
- E. 5–10%.

4.4. Ensuring the Educational Process

1. Textbooks. Sets of tables, atlases by sections. Multimedia projector, computer, screens for multimedia presentations, lecture presentations. Sets of tasks for comprehensive control works.
2. Demonstration screens, laptops, files in Power Point and Word with tasks, and a class for computer-based learning and control of final sessions.
3. Examination tickets

5. Final Control

List of questions for the final control (exam):

1. Dietetics, nutrition, and trophology.
2. Functions of food.
3. Influence of lifestyle on hormonal balance and metabolism.
4. Concept of rational nutrition.
5. Poisonous food and dangerous "E" additives.
6. Percentage ratio of animal and plant protein in the daily diet.
7. Signs of protein deficiency and excess in the diet.
8. Role of essential amino acids in metabolism.
9. Carbohydrates and their types.
10. Beneficial and harmful carbohydrates.
11. Amount of carbohydrates for weight loss, maintenance, and weight gain.
12. Glycemic and insulin indices, glycemic load.
13. Role of fiber, its types, and acceptable quantity.
14. Metabolic disorders (diabetes, insulin resistance, hyperinsulinism, metabolic syndrome).
15. Fats and satiety.
16. Consequences of excess and deficiency of fats in the body.
17. Types of fatty acids, their impact on cholesterol levels and atherosclerosis.
18. Characteristics of vegetable oils in terms of composition and production method.
19. Consumption norms, balance of animal and plant fats.
20. Vitamins and vitamin-like substances.

21. Macro- and microelements.
22. Signs of hypo- and hypervitaminosis.
23. Consequences of mineral deficiency.
24. Their role in supporting metabolism, hormonal, and reproductive health.
25. Coordinated functioning of the gastrointestinal tract - a guarantee of healthy digestion.
26. Disorders of the gastrointestinal tract and their prevention.
27. Types of digestion.
28. How to accelerate metabolism?
29. Influence of hormones on metabolism.
30. Symptoms and consequences of elevated cortisol levels.
31. Thyroid and parathyroid hormones, their functions.
32. General manifestations of endocrine disorders.
33. Nutrition in thyroid gland diseases.
34. Basic laws of nutrition physiology.
35. Problems of modern human nutrition.
36. Correction of metabolism at the cellular level using dietary supplements.
37. Free radicals, the importance of their neutralization.
38. Acidosis - organism acidification, its causes.
39. Concept of buffer systems.
40. Role of antioxidants in supporting immunity, preventing oncological and inflammatory diseases, and weight loss.
41. Types of antioxidants, their effectiveness.
42. Bioflavonoids.
43. Analysis of the main drawbacks of popular diets.
44. Indications and contraindications for fasting.
45. Naturopathy and macrobiotic nutrition.
46. Systematic approach to weight loss without harm to health.
47. Principles of constructing a diet using the plate model.
48. Patented system of natural weight correction.
49. Anthropometric measurements.
50. Which analyses to pay attention to.
51. How to set a goal for weight correction.
52. Psychological techniques for stress relief and food cravings.
53. Formulas for calculating the calorie content of the daily diet.
54. Ways to reduce the calorie content of the diet.
55. Foods with "negative" caloric content.
56. Combinations for strong, weak, and impaired digestion.
57. Features of nutrition for representatives of different blood groups.
58. Blood group and stomach acidity.
59. Concept of antigens and antibodies.
60. Beneficial, neutral, and harmful products for representatives of different blood groups.
61. Oncoprotective and lipid-lowering diets.
62. Impact of aromas on appetite.
63. Beneficial properties of spices, their role in metabolism and digestion.
64. Immunity and allergy.
65. Difference from enzymopathies.
66. Types of immune response and autoimmune diseases.
67. Prohibited products for different types of allergies.
68. Hypoallergenic products and products that increase allergy.
69. The rational nutrition concepts, principles and conditions.
70. The human nutritional status definition and indices.
71. The indices of plastic and energetic adequacy of nutritional status (weight and height Brock, Kretz indices, Quetelet index, subcutaneous fat thickness and others).
72. The protein adequacy indices of the organism nutritional status.
73. The organism nutritional status adipose and carbohydrate adequacy indices.
74. The inedible carbohydrates sufficiency signs in the organism.

74. The macro- and microelements and vitamins sufficiency signs and indices.
75. The human nutritional status biochemical indices.
76. Vitamins as a human dietary intake component, their classification, physiological significance in organism.
77. The most frequent hypovitaminosis states in cases of both individual.
78. Collective nutrition and their causes.
79. Symptomatic, clinical and biochemical signs of the hypovitaminosis C, its diagnostic functional tests.
80. Hypovitaminosis A, methods of its detection.
81. Hypovitaminosis B, methods of their diagnosis.
82. Main sources of water-soluble vitamins.
83. Main sources of liposoluble vitamins.
84. Prevention methods and measures of hypovitaminosis.
85. The influence of the storage conditions, foodstuff culinary handling.
86. Sale conditions on preservation of the vitamins in them.
87. Comparative hygienic characteristics of the natural.
88. Physiological basics of energy and plastic metabolism in organism.
89. Physiological significance and main functions of the nutrition.
90. Concept of the rational nutrition as a basis of energy and plastic metabolism in human organism.

«Examination Ticket "0"»

Black Sea National University named after Petro Mohyla

Educational Qualification Level: **BACHELOR**

Field of Knowledge: 01 "Education/Pedagogy"

Specialty: 017 "Physical Education and Sports"

Academic Discipline: Nutrition of Healthy Eating

EXAMINATION TICKET №0

1. The fundamental principles of utilizing renewable resources in sports - maximum score: 10.
2. Tasks related to the application of pharmaceuticals (medicinal means) - maximum score: 10.
3. Pharmacological support and nutrition for athletes - maximum score: .

Approved at the meeting of the Department of " Department of Medical and Biological Fundamentals of Sports and Physical Education and Sports Rehabilitation ," Protocol №__ dated __ 2025.

Head of the Department _____ **Getmantsev S.V.**

Examiner _____ **Muntian . L. Y**

And so on, for a total of 30 tickets.

Example of a Control Work

6. Assessment Criteria and Means of Diagnosing Learning Outcomes

Control Methods:

- Questioning (assessment of theoretical knowledge and practical skills).
- Control work
- Preparation of presentations.

Current control involves checking theoretical knowledge and mastering practical skills during practical classes, as well as assessing the results of students' independent work. It is monitored by instructors in accordance with the specific objectives of the educational program. The assessment of students' preparedness

levels is done through student interviews, solving and analyzing situational and test tasks, and assessing the mastery of practical skills.

Final control: Students eligible for the final exam are those who attended all lectures and classroom sessions specified by the curriculum, completed independent work in full, and accumulated no less than the minimum required points – **60 points per semester**

Distribution of Points Received by Students

A positive grade for each seminar session can range from 0.5 to 2 points. A grade below 0.5 points indicates "unsatisfactory," and the session is not credited, requiring make-up in the established procedure.

Throughout the semester, a student can accumulate a maximum of 60 points. The total number of points for ongoing educational activities is considered credited if the student has accumulated no less than 30 points.

Student Performance Grade

Type of activity (task)	1 semester
Lecture	3*8=24
Seminar	3*8=24
Tests	10
Individual task	12
Together	70
Passed	30
Together	100

To evaluate the learning outcomes, a final assessment is conducted in the form of an exam. The total maximum score for ongoing educational activities and the final assessment (exam) is 100 points, with a minimum of 60 points.

Grading Criteria

A score of 3 points per semester, 90-100 points in the exam (A according to the ECTS scale and 5 according to the national scale) is given if the student's answer demonstrates profound knowledge of human anatomy and physiology, the ability to apply theoretical material for practical analysis, and contains no inaccuracies.

A score of 2 points per semester, 75-89 points in the exam (B and C according to the ECTS scale and 4 according to the national scale) is given if the answer shows knowledge and the ability to apply them in practice, with some significant inaccuracies allowed.

A score of 1 point per semester, 60-74 points in the exam (D and E according to the ECTS scale and 3 according to the national scale) is given if the student's answer meets the condition of knowing the main theoretical principles and being able to apply them in practice.

Recommended Literature:

Primary Literature:

1. Healthy and health-improving nutrition for people involved in fitness // Edited by Dr. Med. Sci., Prof. O.I. Tsyganenko. Kyiv: 2021. – 240 p.
2. Hygiene and Ecology»: student book / V.G.Bardov, S.T.Omelchuk, N.V.Merezhkina [et al.]; ed. by V.G.Bardov. – Vinnytsia: Nova Knyha, 2022. – 456 p.
3. Tsyganenko O.I., Khomenko I.M., Maslova O.V. et al. Healthy and health-improving nutrition for people involved in fitness // Edited by Dr. Med. Sci., Prof. O.I. Tsyganenko. Kyiv: 2021. – 240 p.

Additional Literature

4. Gunina L.M. Systemic Principles of Using Allowed Pharmacological Agents for Recovery and Stimulation of Physical Performance / L.M. Gunina // Ukrainian Journal of Medicine, Biology, and Sports. – 2016. – K 1 (1).
5. Bischoff SC, Austin P, Boeykens K, Chourdakis M, Cuerda C, JonkersSchuitema C, et al. ESPEN guideline on home enteral nutrition. Clin Nutr 2020; 39:5-22.
6. Arvanitakis et al. ESPEN guideline on clinical nutrition in acute and chronic pancreatitis. Clinical Nutrition 39 (2020) 612-631. <https://doi.org/10.1016/j.clnu.2020.01.004>

Information Resources:

2. twirpx.com

3. sporteducation.jimdo.com

4. <http://meduniver.com/Medical/Book>

5. <http://meduniver.com/Medical/Video>