

MINISTRY OF HEALTH OF UKRAINE  
KHARKIV NATIONAL MEDICAL UNIVERSITY

Department of Hygiene and Ecology No 2

Academic year 2021 – 2022

SYLLABUS  
OF EDUCATIONAL COMPONENT

«Science of Nutrition»

Compulsory or Elective educational component Elective

Form of education

Full-time education

(full-time, part-time, remote)

Branch of knowledge

22 «Healthcare»

(code and name of the direction of training)

Specialty

221 «Dentistry»

(code and name of the specialty)

Educational and professional program

221 «Dentistry»

Second (master's) level of higher education training

Course: third

The program of discipline  
approved at the meeting  
Department of Hygiene and Ecology № 2

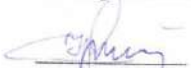
Approved by the methodical commission of  
KhNMU on public health issues

Protocol from  
"30" August 2021 № 7

Protocol from  
"27" August 2021 № 1

Acting Head of Department

Head

  
(signature)

as. Prof. Sidorenko M. O.  
(surname and initials)

  
(signature)

Prof. Ognev V. A.  
(surname and initials)

**SYLABUS DEVELOPERS:**

1. Zavgorodniy I.V., Doctor of Medical Sciences, Full Professor;
2. Sidorenko M.O., Candidate of Medical Sciences, Associate Professor;
3. Korobchansky P.O., Candidate of Medical Sciences, Docent, Associate Professor;
4. Filatova N.M., Candidate of Medical Sciences, Associate Professor;
5. Pertsev D.P., Candidate of Medical Sciences, Associate Professor;
6. Chekhovska I.M., Senior Lecturer;
7. Lalimenko O.S., Candidate of Medical Sciences, Assistant;
8. Merkulova T.V., Candidate of Medical Sciences, Senior Researcher, Assistant;
9. Litovchenko O.L., Assistant;
10. Bilychenko N.P., Assistant;
11. Shevchenko U.V., Assistant;
12. Baydak S.M., Assistant;
13. Maryuha U.V., Assistant;
14. Romashova A.N., Assistant.

## INFORMATION ABOUT THE TEACHER WHO TEACHES THE EDUCATIONAL COMPONENT

Korobchansky P.O.	Candidate of Medical Sciences, Docent, Associate Professor at the Department of Hygiene and Ecology No 2	Moodle: <a href="http://31.128.79.157:8083/course/index.php?categoryid=31">http://31.128.79.157:8083/course/index.php?categoryid=31</a> +38(099) 403 99 17 po.korobchanskyi@knmu.edu.ua
Merkulova T.V.	Candidate of Medical Sciences, Senior Researcher, Assistant at the Department of Hygiene and Ecology No 2	Moodle: <a href="http://31.128.79.157:8083/course/index.php?categoryid=31">http://31.128.79.157:8083/course/index.php?categoryid=31</a> +38(050) 738 58 08 tv.merkulova@knmu.edu.ua
Chekhovska I.M.	Senior Lecturer at the Department of Hygiene and Ecology No 2	Moodle: <a href="http://31.128.79.157:8083/course/index.php?categoryid=31">http://31.128.79.157:8083/course/index.php?categoryid=31</a> +38(066) 124 70 71 im.chekhovska@knmu.edu.ua
Maryuha U.V.	Assistant at the Department of Hygiene and Ecology No 2	Moodle: <a href="http://31.128.79.157:8083/course/index.php?categoryid=31">http://31.128.79.157:8083/course/index.php?categoryid=31</a> +38(096) 491 94 98 yv.mariukha@knmu.edu.ua
Shvets A.M.	Candidate of Medical Sciences, Assistant at the Department of Hygiene and Ecology No 2	Moodle: <a href="http://31.128.79.157:8083/course/index.php?categoryid=31">http://31.128.79.157:8083/course/index.php?categoryid=31</a> +38(066) 217 08 27 am.shvets@knmu.edu.ua

**Contact phone number** +38(057) 707-73-81

[kaf.7med.hihieny2@knmu.edu.ua](mailto:kaf.7med.hihieny2@knmu.edu.ua)

### **Information about consultations:**

**Full-time consultations:** schedule and venue according to the schedule of the training department.

**Online consultations:** schedule and venue by prior arrangement with the teacher.

**Location:** classes are held in the Department of Hygiene and Ecology № 2, KhNMU

## INTRODUCTION

**The syllabus of the discipline** «Science of Nutrition» compiled in accordance with the Educational and Professional Program «Dentistry» (further – Program) and Provisional Standard of Higher Education of Ukraine (further – Standard) specialists of the second (master's) level, in the field of knowledge 22 «Healthcare», specialties – 221 «Dentistry».

**Description of the discipline (abstract).** Peculiarities of the educational process in a higher education institution require from the teacher wide knowledge and skills in various branches of science and economy. In recent years, the attention of specialists from around the world and Ukraine, working in various fields of health care, to the problems of healthy, wellness, personalized, including medical nutrition, is growing rapidly.

Mastering modern knowledge and implementing scientific developments and achievements of nutrition is a powerful factor in the prevention and treatment of non-communicable diseases (NCDs), increasing the duration of active human longevity, maintaining the physical, emotional and mental well-being of the population. Training of masters at the modern level, especially requires the acquisition of fundamental knowledge of nutrition, taking into account the elements of bioethics and nooethics in practice.

**The subject of the discipline** is the physiological basis of nutrition of a healthy person, nutritional characteristics of food, features of their impact on the human body, taking into account physiological, somatic and nutritional status, the specifics of age and occupational groups, nutritional correction of physiological and metabolic changes in various diseases and physiological conditions.

**Interdisciplinary connections.** The program is based on students' study of relevant sections of fundamental disciplines – medical biology, medical and biological physics, medical chemistry, bioorganic and biological chemistry, human anatomy, microbiology, virology and immunology, propaedeutics of internal medicine, physiology, pathomorphology, pathophysiology and biochemistry as well as human hygiene and ecology.

The discipline belongs to the elective disciplines.

**Prerequisites.** The study of the discipline involves the prior mastering of credits in theory and practice of nutrition.

**Postrequisites.** The main provisions of the discipline should be applied in the study of professional disciplines.

**Link to the discipline page in MOODLE –**

<http://31.128.79.157:8083/course/index.php?categoryid=31>

### 1. THE PURPOSE AND OBJECTIVES OF THE DISCIPLINE

**1.1. The purpose of teaching the discipline «Science of Nutrition»** is the formation of students' necessary knowledge, skills, actions, goals, skills and professional outlook of a specialist in the field of training 22 «Healthcare» specialty 221 «Dentistry» students master the necessary knowledge, skills, actions, goals, skills that meet the final purposes of studying the discipline in accordance with Program and Standard.

## **1.2. The main objectives of the discipline «Science of Nutrition» are:**

- deepening knowledge of the basics of physiologically sound nutrition of a healthy person (nutrition);
  - acquisition of skills in identifying the causes of development and signs of mono- and polynutrient deficiencies and their prevention;
  - mastering the importance of basic traditional and non-traditional foods, their composition, properties, nutritional and biological value, parapharmacological characteristics, importance in rational, therapeutic, dietary, therapeutic and prophylactic nutrition;
  - mastering the basic principles of physiologically sound nutrition of a healthy person (nutrition), nutrition of different age groups, categories of the population (children and adolescents, the elderly, pregnant women and nursing mothers, mental and physical workers, athletes of various sports, etc.), medical preventive nutrition of production workers with harmful and especially harmful working conditions, preventive nutrition of persons living in environmentally unfavorable regions of Ukraine, as well as various non-traditional foods;
- acquisition of skills in identifying the causes and adequate nutritional correction of physiological and metabolic changes in the body in various diseases and physiological conditions, taking into account the specifics of the specialist in the specialty 221 «Dentistry».

«Nutritional science» as a discipline (elective course):

The elective course «Nutritional science» takes into account modern scientific developments and achievements of medical science in priority areas, on the basis of which the international program «Health of the Nation» is formed, which formulates the main problems of nutritional diseases and ways to overcome them in the world and in Ukraine. The elective course takes into account the recommendations of the European and international communities of nutritionists and nutritionists (Deutsche Gessellschaft fur Ernährung – DGE, Scientific Committee on Food – SCF), which is especially important in teaching this course for students from other countries who receive higher medical education in Ukraine.

The educational process is organized according to the credit transfer system in accordance with the requirements of the Bologna process.

**1.3 Competences and Programme results of training**, the formation of which is facilitated by the discipline «Science of Nutrition» (the relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the Program and Standard).

**1.3.1.** According to the requirements of the standard, the discipline provides acquisition by students *competencies*:

*Integral:* Ability to cope with difficult tasks and problems in the field of health care in speciality “Dentistry” in the professional activity or during the process of training, the above providing researches and/or innovations and being characterized by indefinite conditions and demands.

*General:*

- capacity for abstract thinking, analysis and synthesis;

- knowledge and understanding of the subject category and understanding of the professional activity;
- capacity for using knowledge in practical activity;
- capacity for searching, processing and analysing information from different sources;
- ability to reveal, define and solve problems;
- commitment to environmental conservation;
- capacity for preserving and augmenting moral, cultural and scientific values and achievements of the society on the basis of understanding of the history and laws of development of the subject field, its place in the general system of knowledge about the nature and society and in the development of the society, engineering and technologies, using different kinds and forms of motor activity for active rest and leading a healthy lifestyle.

*Special (professional, subject):*

- capacity for interpreting results of laboratory and instrumental examinations;
- capacity for assessing environmental effects on the state of human health (in individuals, families and populations);
- capacity for keeping regulatory medical documents;
- processing of state, social and medical information;
- capacity for organizing and carrying out rehabilitative measures and care of patients with diseases of organs in their oral cavity and maxillofacial region/

**1.3.2. The study of the discipline provides students with the following programme results of training (PRT):**

- 1) to determine the character of the mode of work and rest and the necessary diet in treatment of dental diseases on the basis of an initial or final clinical diagnosis by making a sound judgement in compliance with current algorithms and standard schemes;
- 2) to organize taking of medical and evacuation measures for population, military personnel, in conditions of an emergency, including martial law, during full-fledged stages of medical evacuation with consideration of the current system of medical and evacuation support;
- 3) to determine the tactics for giving emergency medical aid with use of recommended algorithms in any conditions on the basis of the diagnosis of a medical emergency in conditions of limited time;
- 4) to analyse and assess state, social and medical information using standard processes and computer information technologies;
- 5) to assess environmental effects on the state of human health in conditions of a medical institution according to standard procedures;
- 6) to form aims and determine structure of one's activity on the basis of the result of analysis of certain social and personal needs;
- 7) to lead a healthy lifestyle, to use techniques of self-regulation and self-control;
- 8) to comply with requirements of ethics, bioethics and deontology in one's professional activity;

9) to organize the required level of the individual safety (of one's own and people under care) in case of appearance of typical dangerous situations in the individual sphere of activity.

**1.3.3.** The study of the discipline provides students with the following **Soft skills**:

- communicativeness (realized through: method of work in pairs and groups, brainstorming, method of self-presentation),
- teamwork (implemented through the project method),
- conflict management (implemented through: dramatization method, game methods),
- time management (implemented through: project method, group work, training),
- leadership skills (implemented through: group work, project method, self-presentation method),
- empathy (realized through: respect for the opinion and ethical considerations, appearance and behavior of other people),
- stress resistance (implemented through: group work with representatives of other professional groups of different levels and ages in unforeseen circumstances and situations).

## 2. INFORMATIONAL VOLUME OF THE DISCIPLINE

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the discipline	
		full-time education	evening form of study
Number of credits – 3	Branch of knowledge <u>22 «Healthcare»</u> (code and name)	Full-time education Elective course	
Total number of hours – 90	Specialty: <u>222 «Dentistry»</u> (code and name)	Year of preparation:	
		3	
		Semester	
		5	6
Hours for full-time form of study (or evening): classroom – 20 independent work of the student – 70	Educational qualification level: Master of Dentistry	Lectures	
		10 hours	
		Practical, seminars	
		10 hours	
		Laboratory	
		Not provided	
		Individual work	
		70 hours	
Individual tasks: Not provided			
Type of control: test			

## 2.1 Description of the discipline

### 2.1.1 Lectures

№	Name topics	Number of hours	Type of lecture
1	Nutritiological bases of a rational food. Alternative and non-traditional foods	2	review lecture
2	Causes of violation of nutritional, vitamin and mineral statuses of the organism and scientific substantiation of their alimentary correction. Physiological role of food nutrients	2	problem lecture
3	Nutritiological and dietary characteristics of basic foods	2	problem lecture with elements of discussion
4	Nutrition of certain categories of the population. Alimentary prevention of oncological diseases	2	problem lecture
5	Causes of alimentary and metabolic disorders in various diseases (propaedeutics of nutrition). Bioethical principles of nutrition of a sick person. Issues of nutrition in certain diseases and physiological conditions	2	problem lecture with elements of discussion
	<b>Total hours</b>	<b>10</b>	

### 2.1.2 Seminars are not provided

### 2.1.3 Practical classes

№	Name topics	Number of hours	Teaching methods	Form of control
1	Nutritiological basics of nutrition. Nutrition and health. Alternative and non-traditional foods.	1	Individual (work with scientific literature), interactive methods of group work (presentation, narrative-explanation, discussions)	written survey
2	Assessment of individual nutritional status of the organism.	1	interactive methods of group work (presentation, narrative-explanation, situational problem, discussions)	individual tasks, mutual control, test control
3	Nutritiological and dietary characteristics of	1	Individual (work	individual



	milk, dairy products. Bioethical and medical problems are related to the consumption of dairy products by the population of Ukraine.		with scientific literature), interactive methods of group work (presentation, narrative-explanation discussions)	tasks, mutual control, test control
4	Nutritiological and dietary characteristics of meat and meat products, eggs, fish, seafoods.	1	interactive methods of group work (presentation, situational problem, discussions)	individual tasks, mutual control, test control
5	Nutritiological and dietary characteristics of bread, bakery, cereals, legumes and other grain products.	1	interactive methods of group work (presentation, situational problem, discussions)	individual tasks, mutual control, test control
6	Nutritiological and dietary characteristics of confectionery. Honey and beekeeping products in the diet of the population, their nutritional and biological value, medicinal and health properties.	1	interactive methods of group work (presentation, situational problem, discussions)	individual tasks, mutual control, test control
7	Nutritiological and dietary characteristics of vegetables, fruits, berries, nuts, mushrooms, wild edible plants.	1	Individual (work with scientific literature), interactive methods of group work (presentation, situational problem, discussions)	individual tasks, mutual control, test control
8	Nutritiological and dietary characteristics of soft drinks (mineral water, sweet carbonated drinks, coffee, tea, etc.), their impact on health.	1	interactive methods of group work (presentation, situational problem, discussions)	individual tasks, mutual control, test control
9	Causes of violation of vitamin and mineral status, ways to solve the problem. Bioethical aspects of dietary restrictions due to economic, ethical and other issues	1	Individual (work with scientific literature), interactive methods of group	mutual control, frontal oral examination

			work (presentation, situational problem, discussions)	
10	Causes of alimentary and metabolic disorders in various diseases (propaedeutics of nutrition). Alimentary diseases and their prevention. Bioethical principles of nutrition of a sick person. Alimentary prevention of oncological diseases.	1	Individual (work with scientific literature), interactive methods of group work (presentation, situational problem, discussions)	test control, individual oral examination
	<b>Total hours</b>	<b>10</b>		credit

#### 2.1.4 Laboratory classes are not provided

**2.1.5 Independent work** of the student includes elaboration of lecture material, methodical material, necessary information during preparation for the next practical lesson.

№	Name topics	Number of hours	Teaching methods	Form of control
1	Nutritiological basics of nutrition. Nutrition and health. Alimentary diseases and their prevention. Alternative and non-traditional foods	6	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
2	Assessment of individual nutritional status of the organism	6	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
3	Causes of violation of the nutritional status of the organism and scientific substantiation of its alimentary correction	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
4	Causes of vitamin and mineral status disorders and ways to solve the problem. Bioethical aspects of dietary restrictions due to economic, ethical and other issues. Bioethical problems of vegetarianism	6	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control, report

5	Nutritiological and dietary characteristics of milk, dairy products. Bioethical and medical problems are related to the consumption of dairy products by the population of Ukraine	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
6	Nutritiological and dietary characteristics of eggs, meat and meat products, fish, non-fish seafood	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
7	Nutritiological and dietary characteristics of confectionery. Honey and beekeeping products in the diet of the population, their nutritional and biological value, medicinal and health properties	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
8	Nutritiological and dietary characteristics of bread, bakery, cereals, legumes and other grain products	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
9	Nutritiological and dietary characteristics of vegetables, fruits, berries, nuts, mushrooms, wild edible plants	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
10	Nutritiological and dietary characteristics of soft drinks (mineral water, sweet carbonated drinks, coffee, tea, etc.), their impact on health.	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
11	Causes of alimentary and metabolic disorders in various diseases. Bioethical principles of nutrition of a sick person. Alimentary prevention of oncological diseases	6	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control, report
12	Changes in nutritional status in endocrine diseases and metabolic disorders	4	Individual (work with scientific literature, with	self-control, mutual control,

			interactive material, with methodical developments)	report
13	Alimentary prevention of dysmetabolic disorders of different groups and categories of the population	6	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
14	Special purpose foods, dietary supplements, their use	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
15	Food additives, their classification, purpose and application. Genetically modified foods	4	Individual (work with scientific literature, with interactive material, with methodical developments)	self-control, mutual control
	<b>Total hours</b>	<b>70</b>		

### 3. ASSESSMENT CRITERIA

**3.1. Assessment of students** is carried out in accordance with the «Instructions for assessing the educational activities of students in the European credit transfer system for the organization of the educational process in KhNMU».

**Current educational activity of students** (further – CEA) is controlled by the teacher of the academic group, after mastering each topic of the discipline by students and grades are set using a 4-point (national) system. At the end of the semester, the teacher automatically receives the average grade (to the nearest hundredth) for CEA using an electronic journal of the ASU system.

For the discipline, the study of which is completed in the current semester and the form of its control is a test, the average score on the CEA teacher of the department is translated into a 200-point scale.

#### **Control methods**

When studying the discipline, the current and final semester control is used. Also, there is a mandatory control of the assimilation of educational material of the discipline, assigned to independent work.

**Current control** (mastering certain topics) is conducted in the form of oral interviews, testing, conversations of students on pre-defined issues, in the form of speeches of higher education students with reports when discussing educational issues in practical classes.

In order to assess the independent work of students, an alternative option is offered (optional): traditional types of tasks: writing a test, abstract or creative types: preparation of a multimedia presentation, elaboration of educational literature (annotation, reviewing, citation, abstracts, supplementing lectures).

**Final semester control** in the discipline is a mandatory form of control over the academic achievements of higher education students. It is performed orally. The terms of the final semester control are set by the schedule of the educational process, and the amount of educational material, which is submitted for the final semester control, is determined by the work program of the discipline.

The total number of rating points for the study of the discipline for the semester is calculated as the sum of points obtained by the results of the current control and points obtained by the results of the final semester control. The maximum number of points for the semester is 200 points, the minimum – 120 points.

The form of final control of academic performance in the discipline is a test. **Test** (in accordance with the «Instructions for assessing the educational activities of students ...») is conducted by the teacher of the academic group at the last lesson in the discipline and involves taking into account the CEI (table) and checking the mastering of all topics in the discipline. The score is determined in points from 120 to 200 and marked «passed», «not passed».

**Recalculation of the average score for current activities in a multi-point scale.** Carried out in accordance with the «Instructions for assessing the educational activities of students ...» (table)

4- score scale	200- score scale	4- score scale	200- score scale	4- score scale	200- score scale
5	200	4.22-4,23	169	3.45-3,46	138
4.97-4,99	199	4.19-4,21	168	3.42-3,44	137
4.95-4,96	198	4.17-4,18	167	3.4-3,41	136
4.92-4,94	197	4.14-4,16	166	3.37-3,39	135
4.9-4,91	196	4.12-4,13	165	3.35-3,36	134
4.87-4,89	195	4.09-4,11	164	3.32-3,34	133
4.85-4,86	194	4.07-4,08	163	3.3-3,31	132
4.82-4,84	193	4.04-4,06	162	3.27-3,29	131
4.8-4,81	192	4.02-4,03	161	3.25-3,26	130
4.77-4,79	191	3.99-4,01	160	3.22-3,24	129
4.75-4,76	190	3.97-3,98	159	3.2-3,21	128
4.72-4,74	189	3.94-3,96	158	3.17-3,19	127
4.7-4,71	188	3.92-3,93	157	3.15-3,16	126
4.67-4,69	187	3.89-3,91	156	3.12-3,14	125
4.65-4,66	186	3.87-3,88	155	3.1-3,11	124
4.62-4,64	185	3.84-3,86	154	3.07-3,09	123
4.6-4,61	184	3.82-3,83	153	3.05-3,06	122
4.57-4,59	183	3.79-3,81	152	3.02-3,04	121
4.54-4,56	182	3.77-3,78	151	3-3,01	120
4.52-4,53	181	3.74-3,76	150	Less 3	Not enough
4.5-4,51	180	3.72-3,73	149		
4.47-4,49	179	3.7-3,71	148		

4.45-4,46	178	3.67-3,69	147
4.42-4,44	177	3.65-3,66	146
4.4-4,41	176	3.62-3,64	145
4.37-4,39	175	3.6-3,61	144
4.35-4,36	174	3.57-3,59	143
4.32-4,34	173	3.55-3,56	142
4.3-4,31	172	3.52-3,54	141
4,27-4,29	171	3.5-3,51	140
4.47-4,49	179	3.7-3,71	148
4.45-4,46	178	3.67-3,69	147
4.42-4,44	177	3.65-3,66	146
4.4-4,41	176	3.62-3,64	145
4.37-4,39	175	3.6-3,61	144
4.35-4,36	174	3.57-3,59	143
4.32-4,34	173	3.55-3,56	142
4.3-4,31	172	3.52-3,54	141
4,27-4,29	171	3.5-3,51	140

### 3.2. Test questions for test

1. The importance of nutrition as a factor that affects and shapes human health.
2. Features of human nutrition in modern conditions.
3. Characteristics of nutrition of the population of Ukraine.
4. Principles of nutrition.
5. Mechanisms of development of alimentary-caused diseases.
6. Principles of prevention of food-related diseases.
7. Principles of various non-traditional foods. (Separate nutrition. Raw food. Vegetarian nutrition. Nutrition of macrobiotics. The concept of "living energy", "spectacle diet", "miracle" food. Nutrition in the system of teaching yoga. Therapeutic fasting.).
8. The use of various non-traditional foods to correct the condition of the body.
9. Definition and indicators of nutritional status of the organism.
10. Indicators of energy and plastic adequacy of food status (mass-growth index of Brock, Krebs, Kettle index, thickness of skin and fat folds and others).
11. Indicators of protein adequacy of nutritional status of the organism.
12. Indicators of fat, carbohydrate adequacy of nutritional status of the organism.
13. Signs of providing the body with non-food carbohydrates.
14. Signs and indicators of providing the body with macro- and microelements and vitamins.
15. Biochemical indicators of nutritional status of the organism.
16. Methods of medical assessment of human nutritional status.
17. Physiological significance of proteins and amino acids. The main sources of its income.
18. Physiological significance of fats, fatty acids, phospholipids, sterols. The main sources of income.
19. Physiological significance of mono-, disaccharides and polysaccharides, including dietary fiber. The main sources of income.

20. Causes of violation of protein status (protein, protein-energy deficiency and excess). Clinical signs of excess and deficiency of protein.
21. Causes of fat status disorders. Clinical signs of excess fat, cholesterol, PUFA deficiency, especially of the  $\omega$ 3 family.
22. Causes of violation of carbohydrate status. The concept of glycemic index. Comparative characteristics of glucose and fructose. Clinical signs of excess simple carbohydrates, lack of dietary fiber.
23. Physiological significance of water- and fat-soluble vitamins, vitamin-like substances. The main sources of income.
24. Physiological significance of macro- and microelements. The main sources of income.
25. Causes of hypo- and avitaminosis, methods of their prevention. Antivitamins.
26. Clinical signs of insufficiency of vitamins of group B. Additional researches which need to be carried out for specification of the diagnosis, their standard sizes. Dietary recommendations for the correction of this condition.
27. Clinical signs of ascorbic acid deficiency. Additional studies that need to be conducted to clarify the diagnosis, their normative values. Dietary recommendations for the correction of this condition.
28. Clinical signs of deficiency of fat-soluble vitamins. Additional researches which need to be resulted for specification of the diagnosis, their standard sizes. Dietary recommendations for the correction of this condition.
29. Clinical signs of potassium, calcium, magnesium deficiency. Additional studies that need to be conducted to clarify the diagnosis, their normative values. Dietary recommendations for the correction of this condition.
30. Clinical signs of iron, copper, zinc, iodine deficiency. Additional studies that need to be conducted to clarify the diagnosis, their normative values. Dietary recommendations for the correction of this condition.
31. Meat and meat products, their composition and properties, nutritional and biological value, parapharmacological properties, sanitary quality, epidemiological safety.
32. Meat and meat products, their importance in rational, therapeutic, dietary, therapeutic and prophylactic nutrition.
33. Fish and non-fish seafood, their composition and properties, nutritional and biological value, parapharmacological properties, sanitary quality, epidemiological safety.
34. Fish and non-fish seafood, their importance in rational, therapeutic, dietary, therapeutic and prophylactic nutrition.
35. Eggs and egg products, their composition and properties, nutritional and biological value, parapharmacological properties, sanitary quality, epidemiological safety.
36. Eggs and egg products, their importance in rational, therapeutic, dietary, therapeutic and prophylactic nutrition.
37. Confectionery, their composition and properties, nutritional and biological value, sanitary quality, epidemiological safety.

38. Honey and bee products, their composition, specific properties, importance in nutrition, parapharmacological properties.
39. Cereals and legumes, their composition and properties, nutritional and biological value, properties, sanitary quality, epidemiological safety.
40. Cereals and legumes, their importance in rational, therapeutic, dietary, therapeutic and prophylactic nutrition.
41. Features and physiological prerequisites of nutrition, specific effects of nutrients, principles and special foods for children and adolescents.
42. Features and physiological prerequisites of nutrition, specific effects of nutrients, principles and special foods for the elderly.
43. Features and physiological prerequisites of nutrition, specific effects of nutrients, principles and special foods for pregnant women and nursing mothers.
44. The concept of therapeutic and prophylactic nutrition, biological and nutritional supplements, their purpose.
45. Classification of biological and food additives.
46. The use of therapeutic and prophylactic nutrition, the use of biological and food additives.

### **3.3. Individual tasks**

Individual work of students under the guidance of the teacher is carried out during the semester in the form of: study of literature sources recommended for mastering topics and problems, preparation of reports with presentations on them and abstract.

The abstract should have a volume of 10-16 pages of standard text (font size A4, font - Times New Roman, size - 14, line spacing - 1.5, paragraph indent - 1.25, width alignment, between paragraph indents - no) and fully disclose the content of selected issues. The presentation of the report should be performed in the software services PowerPoint, Prezi, Google slides, etc. The work should be structured and contain the title of the report, relevance, purpose, objectives, main content of the work, the list of used literature sources, designed in accordance with the existing requirements of DSTU 8302: 2015 «Information and documentation».

The maximum number of points that can be added to the current performance for an individual task is 10.

### **3.4. Rules for appealing the assessment**

The grade in the discipline can be appealed on the basis of the requirements of the «Regulations on the organization of the educational process in KhNMU» № 370 from 27.08.2019, supplemented in accordance with the order № 114 from 20.05.2020

## **4. DISCIPLINE POLICY**

### **Academic expectations from students**

**Course requirements.** It is expected that male and female students will attend all practical classes. If they missed classes, it is necessary to work it out (according to the schedule on the information stand of the department)



Written and homework must be completed completely and on time, if students have questions, you can contact the teacher in person or by e-mail, which the teacher will provide in the first practical lesson.

**Practical trainings.** Active participation during the discussion in the audience, students should be ready to understand the material in detail, ask questions, express their point of view, discuss. It's important during the discussion:

- respect for colleagues,
- tolerance for others and their experience,
- receptivity and impartiality,
- the ability to disagree with the opinion, but to respect the personality of the opponent,
- careful argumentation of his opinion and the courage to change his position under the influence of evidence,
- self-expression, when a person avoids unnecessary generalizations, describes his feelings and formulates his wishes based on their own thoughts and emotions,
- Mandatory acquaintance with primary sources.

A creative approach in its various manifestations is welcome. Students are expected to be interested in participating in city, national and international conferences, competitions and other events in the subject profile.

**Occupational Health.** The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exits to the audience, where the fire extinguisher is, how to use it, etc.

**The behavior in the classroom. Basic "yes" and "no".** It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and are not fundamentally different from the generally accepted norms.

It is allowed during classes:

- leave the audience for a short time if necessary and with the permission of the teacher;
- drink soft drinks;
- take photos of presentation slides;
- take an active part in the class (see Academic expectations from students).

forbidden:

- eat (except for persons whose special medical condition requires another – in this case, medical confirmation is required);
- smoking, drinking alcohol and even low-alcohol beverages or drugs;
- use obscene language or use words that offend the honor and dignity of colleagues and faculty;
- gambling;
- damage the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);

- -houting, shouting or listening to loud music in classrooms and even in corridors during classes.

## 5. ACADEMIC INTEGRITY

### Plagiarism and academic integrity

**The Department of Hygiene and Ecology № 2 maintains zero tolerance for plagiarism.** Students are expected to constantly increase their own awareness of academic writing. The first lessons will include information activities on what to consider plagiarism and how to properly conduct research and scientific research.

## 6. RECOMMENDED BOOKS

### Basic

1. Гігієна та екологія. Підручник/ За редакцією В.Г. Бардова. – Вінниця: Нова книга, 2018. – 726 с.
2. General Science of Nutrition. Study Guide for the 4th accreditation level Medical School Students /Edited by S.T. Omelchuk, O.V. Kuzminska., K., 2016. 145 p.
3. Clinical Nutrition Basics for Medical Students Paperback / Amanda Velazquez – 2014 , 304 p.
4. Fundamentals of Human Nutrition: for Students and Practitioners in the Health Sciences, 12-th Edition/Catherine Geissler, Hilary Powers, 2011, p. 291-365.
5. Nutrition at a Glance 1st Edition / Mary Barasi 2014, p. 80-102.
6. Nutrition Counseling and Education Skills: A Guide for Professionals 7th Edition/Judith Beto, Betsy Holli , - 2018, p. 220-245.
7. Nutrition in Public Health 4th Edition /Sari Edelstein,- 2018.-p.183-225.

### Auxiliary

1. Гігієна харчування з основами нутріціології / За ред. проф.В.І. Ципріяна/. 1 том., Київ: Медицина, 2007.- 528 с.
2. Гігієна харчування з основами нутріціології/ За ред. проф.В.І. Ципріяна/. 2 том., Київ: Медицина, 2007.- 560 с.
3. Противовоспалительное питание в профилактике и лечении хронических неинфекционных (в том числе опухолевых) заболеваний человека. Молекулярные защитные механизмы биоактивных компонентов пищи: монография/ В.Н. Залесский, Н.В. Великая, С.Т. Омельчук. – Винница: Нова Книга, 2014. – 736 с.
4. Научные основы потребления витаминов, минералов и растительных диетических добавок (ДД) в профилактике и лечении сердечно-сосудистых, онкологических и офтальмологических заболеваний: Монография/ В.Н. Залесский, Н.В. Великая. – К.: ЗАО «Випол», 2009. – 192 с.
5. Нутріціологія. Підручник для студентів вищих медичних навчальних закладів України III-IV рівнів акредитації. В.В. Ванханен, В.Д. Ванханен, В.І. Ципріян, Донецьк: Донеччина, 2001, 475 с.
6. Гігієна харчування. Методичні вказівки до практичних занять для студентів VI курсу за спеціальністю “Медико-профілактична справа” (В.В. Ванханен, В.Д. Ванханен, В.І. Ципріян), Донецьк: Донеччина, 2003, 89 с.
7. Методика оцінки харчового статусу людини та адекватності індивідуального харчування. Навчально-методичний посібник. В.І. Ципріян, Н.В. Велика, В.Г. Яковенко, Київ, 1999, 60 с.
8. Яцула Г.С., Слободкін В.І., Береза В.Я. Санітарно-гігієнічні методи дослідження харчових продуктів і води, К.: Здоров'я, 1991.288с.
9. Профилактическое питание в онкологии. В.І.Ципріян та ін. Луганск, «Ноулинж», 2010.-148с..

10. Оздоровительное и диетическое питание / Под ред. В.И. Циприяна. Цикл лекций для слушателей курса «Нутрициология», ч.1, Киев, 2001. - 336 с.
11. А.Н. Мартинчик, И.В. Маев, А.Б. Петухов. Питание человека (основы нутрициологии). - М.: ГОУ ВУНМЦ, 2002. - 576 с.
12. Шевченко В.П. Клиническая диетология/ Под ред. В.Т. Ивашкина.- М.: ГЕОТАР – Медиа, 2009.- 256 с.
13. Диетология: Руководство. 2-е изд./ Под ред. А.Ю. Барановского. – СПб: Питер, 2006.- 960 с.
14. Павлоцька Л.Ф., Дуденко Н.В., Димитрієвич Л.Р. Основи фізіології, гігієни харчування та проблеми безпеки харчових продуктів: навчальний посібник.- Суми: ВТД «Університетська книга», 2007.- 441 с.
15. Габі Гаубер-Швенк, Міхаель Швенк. Харчування.- Київ, «Знання-прес», 2004.- 184 с.
16. Циприян В.И., Ялкупт С.И. Питание в профилактике опухолей. Киев, «Книга плюс», 2000 – 152 с.
17. Циприян В.И., Лизогуб В.Г., Пономаренко В.И. Кардиопротекторная диета “Счастлиное сердце”. Лекция для слушателей элективного курса «Нутрициология». Издательство “Приазовье, 2000”. – 32 с.
18. Циприян В.И. Диетология и диетопрофилактика алиментарного ожирения. Лекция для слушателей элективного курса «Нутрициология». Киев, 2000. - 147с.
19. Справочник по диетологии / Под ред. В.А. Тутельяна, М.А. Самсонова.- 3-е изд., переработ. и дополнен.- М.: Медицина, 2002. - 544 с.
20. Омега –3 ПНЖК / Под ред. Ю.И. Фещенко и В.К. Гаврисюка. - Киев, 1996. - 124 с.
21. Скальный А.В. Микроэлементозы человека (диагностика и лечение). Москва, 1999. - 96 с.
22. Дуденко Н.В., Павлоцька Л.Ф. Фізіологія харчування. Навчальний посібник. Харків – 1999. - 390 с.
23. Жвиташвили Ю.Б. Рак и питание. – СПб.: Издательский дом. Нева, М.: ОЛМА – ПРЕСС, 2001. - 320 с.
24. Ганинець О.М. Практична дієтологія. Навчальний посібник, Ужгород, 2004. - 228 с.
25. Пухлини молочної залози /харчування, фітотерапія, імунопрофілактика/ Під ред. В.Ф. Чехуна, Київ, “Книга плюс”, 2003. - 206 с.
26. Блейз А.. Энциклопедия лечебных овощей. Москва, «Олма-Пресс», 1999. - 318 с.
27. Блейз А. Энциклопедия лечебных фруктов и ягод. Москва, «Олма-Пресс», 1999. - 320 с.
28. Смолянский Б.Л., Абрамова Ж.И. Справочник по лечебному питанию. С.-П., «Гиппократ», 1993. - 302 с.
29. Смолянский Б.Л., Белова Л.В. Нетрадиционное питание. С.-П. «Гиппократ», 2001. - 201 с.
30. Смолянский Б.Л. Алиментарные заболевания. Ленинград, «Медицина», 1979. – 262 с.
31. Принципи здорового харчування. Посібник підготовлений робочою групою програми СІNDІ – Україна. Київ, 2001. – 19 с.
32. Зубар Н.М., Циприян В.И., Руть Ю.В. Фізіологія харчування. Опорний конспект лекцій. Київ, 2000. – 181 с.
33. Мазуркевич С.А. Энциклопедия заблуждений. Питание.- М.: Издательство ЭКСМО-Пресс, 2001. - 400 с.
34. Доценко В.А.. Болезни избыточного и недостаточного питания: Учебное пособие. С.-П.: 000 «Издательство ФОЛИАНТ», 2004. – 112 с.

35. Тутельян В.А., Спиричев В.Б. Микронутриенты в питании здорового и больного человека (справочное руководство по витаминным и минеральным веществам). - М.: Колос, 2002. - 424 с.

## **7. INFORMATIONAL RESOURCES**

Official web resources of the President of Ukraine, the Verkhovna Rada of Ukraine, the Ministry of Education and Science, the Ministry of Health and other central authorities of Ukraine, educational portals of higher medical educational institutions of Ukraine.

1. Official Internet Representation of the President of Ukraine <http://www.president.gov.ua/>
2. The Verkhovna Rada of Ukraine <http://www.rada.gov.ua/>
3. The Cabinet of Ministers of Ukraine <http://www.kmu.gov.ua/>
4. Ministry of Education and Science of Ukraine <http://www.mon.gov.ua/>
5. Ministry of Ecology and Natural Resources of Ukraine <http://www.menr.gov.ua/>
6. National Security and Defense Council of Ukraine <http://www.rnbo.gov.ua/>
7. Permanent Mission of Ukraine to the United Nations <http://ukraineun.org/>
8. World Health Organization <http://www.who.int/en/>
9. Centers for diseases control and prevention [www.cdc.gov](http://www.cdc.gov)
10. Public Health Center of the Ministry of Health of Ukraine <https://phc.org.ua/>