

**Odessa National Medical University**  
**Faculty of Pharmacy**  
**Department of Pharmacology and Pharmacognosy**

**Syllabus course**

**NUTRITION AND BROMATOLOGY**

<b>Amount</b>	2 credits / 60 hours
<b>Semester, year of study</b>	II semester, IV year of study
<b>Days, time, place</b>	According to the schedule in the auditorium 106 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski - 37
<b>Teacher (s)</b>	Boyko Iryna Anatoliivna, Ph.D., senior lecturer Bogatu Svitlana Ihorivna, Candidate of Medical Sciences, Assistant
<b>Contact phone</b>	063362631
<b>E-mail</b>	svetabogatu.sb@gmail.com - Bogatu SI i.boyko.od@gmail.com - Boyko IA
<b>Workplace</b>	Office № 102 of the Department of Pharmacology and Pharmacognosy (pharmacognosy cycle). Street Malinowski - 37
<b>Consultations</b>	<i>Eye consultations</i> : Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 <i>Online consultations</i> : Thursday from 15.00 to 17.00; Saturday from 9.00 to 13.00 via <i>viber</i>

## **COMMUNICATION**

Communication with students will be through face-to-face meetings. In case of transition to distance learning, communication with students will be carried out by means of E-mail and programs: Microsoft Teams, Zoom and Viber.

## **COURSE ANNOTATION**

### *The subject of study of the discipline*

**The subject of study** of the discipline "Nutrition" - are the nutrients and components contained in food, the rules of eating, the laws of interaction of food, the effect of food on the body.

*Prerequisites and postrequisites of the course (Place of discipline in the educational program):*

a) is based on the study of disciplines by students and integrates with these disciplines: pharmacognosy (drugs based on LRS, methodology of semi-synthesis), medical and biological physics (basic physical laws and equations related to the pharmacological effect of drugs, modern physical research methods ), physical and colloid chemistry (basic physicochemical laws and equations that are related to the pharmacological effect of drugs), technology of dosage forms (modern dosage forms), organic chemistry and bioorganic chemistry (basics of chemical terminology,

theoretical foundations of organic and bioorganic chemistry), pharmaceutical chemistry (chemistry of modern medicines, chemical bases of pharmacological effect), as well as Latin, botany, analytical chemistry, normal and pathological human physiology;

b) lays the foundations for students to study the following disciplines: toxicological chemistry; clinical pharmacy; resource science of medicinal plants.

#### *The purpose of the course.*

The aim is: students to master the basic terms and concepts of nutrition and bromatology, analysis of data on food hygiene, foodborne illness, as well as education of food supply and food security in Europe in terms of food safety and public health in Ukraine and countries Europe, and the study of the main principles of forming the structure of food consumption; mastering the practical skills of evaluating the development of diets for the rational choice of ways to solve problems of health care and promotion; formation of skills and abilities to conduct information work in practical professional activities regarding the impact of a balanced diet on human health ..

#### *Tasks of the discipline :*

- formation and development of a system of knowledge, skills and abilities necessary for the development of effective nutrition in order to maintain health, efficiency, longevity;
- acquainting students with the principles of healthy eating;
- development of the ability to independently use the skills of compiling therapeutic diets.

#### *Expected results*

According to the study of the discipline, students must

#### ***know:***

- basic principles and principles of healthy eating;
- the main components of a balanced diet;
- the consequences of violations of the regimes and basics of physiological nutrition;
- basics of food hygiene;
- food, dietary and biologically active supplements;
- medical diets for diseases of the hormonal, digestive and other systems.

#### ***be able:***

- use professional knowledge in solving practical issues;
- to carry out preventive informing of the population concerning importance of a correct food;
- provide recommendations to patients regarding special diets;
- work independently with educational and reference literature;
- apply the basics of nutrition and bromatology in the study of specialized disciplines.

## **COURSE DESCRIPTION**

#### *Forms and methods of teaching*

The course will be presented in the form of lectures (30 hours) and seminars (10 hours), organization of independent work of students (20 hours).

The study of the discipline should be implemented on the basis of methods of problem statement, heuristic, research, interactive (project method).

#### *The content of the discipline*

Topic 1 Terminology in nutrition and bromatology. Distribution of products by functional purpose. Micronutrients. Conditions caused by imbalance of macro- and micronutrients in the body.

Topic 2 The content of chemical elements in food. Essential substances. Biologically active food additives (BAA). Nutraceuticals. Dietary supplements. Xenobiotics. Functional food products (FFP). Nutritional supplements. Water.

Topic 3 Theories of nutrition. Principles of nutrition: Physiological and hygienic requirements for nutrition. Energy and nutritional value of the diet. Human energy expenditure in various activities (above the basic exchange).

Topic 4 Rules of eating. Improper food combinations. Mediterranean diet. Non-traditional methods of nutrition.

Topic 5 World market of dietary supplements. Dietary supplements. Classification. Parapharmaceuticals and nutraceuticals. Principles of use.

Topic 6 Components of dietary supplements. Components introduced into functional products. Isoflavonoids. Digestive enzymes.

Topic 7 DD components. Chitosan. Glucosamine. Chondroitin sulfate. Succinic acid. Betaine. Taurine. 3-hydroxymethyl-indole (indole-3-carbinol).

Topic 8 Chlorophyll. Resveratrol. Ornithine. Sulfur-containing substances. Enzymes. Amino acids.

Topic 9. Dangerous effects of food. Allergy. The value of allergens. Food allergy. Skin tests. Treatment of food allergies. Allergens.

Topic 10. Nutrition in food allergies. Legislative requirements. Food intolerance and its types. Enzymopathy

Topic 11. Obesity. Degrees of obesity. Causes of obesity. Diet №8. Risk factors for diabetes in children and adults. Symptoms of diabetes: Treatment. Nutrition in diabetes. Glycemic index. Diet №9.

Topic 12. The most common diseases of the digestive system. The effect of food on gastrointestinal function. Chemical composition of food and diet. Diet №1. Diet №1a. Diet №16. Diet №2. Diet №3. Diet №4. Diet №4a. Diet №4b. Diet №4c. Hepatitis. Diet № 5. Diet №5P

Topic 13. Atherosclerosis. Balance of cholesterol in the human body. Cholesterol synthesis. Excretion of cholesterol from the body. Ways to lower blood cholesterol.

Topic 14. Therapeutic nutrition in GB. Therapeutic nutrition in CNS diseases. Body weight control.

Topic 15. Nutrition after myocardial infarction and coronary heart disease. Coronary heart disease (CHD). Nutrition in chronic heart failure. Supplements for cardiovascular disease.

### *List of recommended reading*

1. Pharmaceutical commodity science: a textbook / BP Gromovyk, NB Yarko, I. Yu. Gorodetskaya. - Lviv: Prostir M, 2018. - 139 p.

2. Zubar N.M. Fundamentals of physiology and hygienic kharchuvannya... Pidruchnik. - K.: Center of educational literature, 2010. -- 336 p.

3. Tsipriyan V.I., Matasar I.T., Slobodkin V.I. Hygiene Harchuvannya with the Basics of Nutrition. - K.: Medicine, 2007. -- 544 p.

4. Anistratenko T.I., Bilko T.M., Blagodatnova O.V. that in. Hygiēna harchuvannya with the basics of nutrition. Pidruchnik. Have 2 books. Edited by prof. V.I. Tsipriyan. - K.: Medicine, 2007. -- 528

5. Dubinina A.A., Malyuk L.P., Selyutina G.A. that in. Toxic speech in food products and methods of... Pidruchnik. - K.: VD "Profesional", 2007. - 384 p.

6. Pavlotska L.F., Dudenko N.V. Fundamentals of physiology, food processing and problems of food safety... Navchalnyy posibnik. - Sumi: VTD "Universitieska kniga", 2007. - 441 p.

## EVALUATION

*Methods of current control:* Evaluation of the success of the study of each topic of the discipline is performed on a traditional 4-point scale.

Current performance is calculated as the average current score, ie the arithmetic mean of all grades obtained by the student on a traditional scale, rounded to 2 (two) decimal places, for example 4.75.

Assessment of current control in the discipline:

The value of the assessment is "**excellent**": the student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use acquired knowledge and skills to make decisions in unusual situations, convincingly argues answers.

The value of the grade "**good**": the student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standard situations, independently corrects mistakes, the number of which is insignificant.

The value of the assessment is "**satisfactory**": the student reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic provisions; with the help of the teacher can analyze the educational material, correct mistakes, among which there are a significant number of significant ones.

The value of the assessment is "**unsatisfactory**": the student has the material at the level of individual fragments that make up a small part of the study material.

Only those students who do not have academic debts and have an average score of at least 3.00 for their current academic activity are allowed to take the final attestation.

Assessment of the current test control in the discipline:

- "5" - 100-91% of correct answers;
- "4" - 90-71% of correct answers;
- "3" - 70-60.5% of correct answers;
- "2" - less than 60% of correct answers.

*Forms and methods of final control:*

The form of final control of knowledge in the discipline is a test.

The average score for the discipline is translated into the traditional grade from the discipline on a 4-point scale and is regarded as the ratio of this arithmetic mean to the percentage of mastering the required amount of knowledge in this subject.

GPA for discipline	The ratio received by the student average score for the discipline to the maximum possible value of this indicator	Score from discipline on a 4-point scale (traditional assessment)
4.45 - 5.0	185-200	5
3.75 - 4.44	151-184	4
3.0 - 3.74	120-150	3

### *Independent work of students .*

Students' independent work, which is provided by the topic of the lesson along with the classroom work, is assessed during the current control of the topic in the relevant lesson. Assimilation of topics that are submitted only for independent work is checked at the last lesson.

### **COURSE POLICY** ("rules of the game")

*Deadline and recompilation policy:* tasks to be completed on time according to the deadline. For late performance of the task the student receives an unsatisfactory grade. Rearrangement is carried out according to the approved schedule.

#### *Academic Integrity Policy :*

Observance of academic integrity by students of education provides:

- ♦ independent performance of educational tasks, tasks of current and final control of learning outcomes (for persons with special educational needs this requirement is applied taking into account their individual needs and opportunities);
- ♦ links to sources of information in the case of the use of ideas, developments, statements, information.

*Policy attendance and tardiness .* To obtain a satisfactory grade, it is mandatory to attend and work in classrooms (lectures and seminars). The student is allowed to be late for no more than 10 minutes.

*Mobile devices: You* can use mobile devices in class with the permission of the teacher.

#### *Audience behavior:*

While in the audience are important: respect for colleagues; tolerance for others; susceptibility and impartiality; the ability to disagree with the opinion, but to respect the personality of the opponent (during discussions); careful argumentation of the opinion; adherence to the ethics of academic relations.