

## SYLLABUS OF THE EDUCATIONAL COMPONENT

### Basics of rational nutrition

for students of higher education, 5th year of full-time education (4.10Д)  
educational program «Pharmacy»  
specialty «226 Pharmacy, industrial pharmacy»  
field of knowledge «22 Health care»  
the second (master's) level of higher education

### TEACHERS



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**4. Information about teachers:**

**Ganna TARTYNSKA**

Candidate of Pharmaceutical Sciences, Associate Professor of the institution of higher education, Department of Pharmacognosy and Nutriciology of the National Pharmaceutical University. Experience of scientific and pedagogical activity – 11 years. Reads courses: «Pharmacognosy with the basics of resource science», «Basics of rational nutrition», «Nutriciology», «Pharmacognostic analysis of new MPM», «Pharmacognostic basis of phytotherapy». Research interests: chemistry of natural compounds, plant cultivation.

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**5. Consultations:** *online, take place every Wednesday from 12.05 to 12.50*

**6. Brief summary of the educational component:** Basics of rational nutrition - a selective educational component for students of higher education, 5th year of full-time education (4.10д), educational program «Pharmacy», specialty «226 Pharmacy, industrial pharmacy», field of knowledge «22 Health care», the second (master's) level of higher education. The educational process is organized according to the credit-module system. The program of the discipline meets the requirements of the "Recommendations for the development of educational programs of educational disciplines" (Order of the Ministry of Health of Ukraine No. 492 dated 12.10.2004).

The amount of study load of students of higher education is described in ECTS credits – credit credits, which are credited to students of higher education upon successful assimilation of the relevant part of the discipline. The selective educational component "Fundamentals of rational nutrition" contains a set of information necessary for the expansion of theoretical training and practical activities of the future specialist, allows to teach the correct attitude to nutrition and health, reveals the importance and role of nutrition in the life processes of the human body.

**7. The purpose of teaching the educational component:** formation of a system of theoretical knowledge, practical skills and skills of higher education students regarding the organization of the nutrition system of a healthy and sick person at different age stages of his life through the application of modern scientific provisions of Nutriciology and assessment of the nutritional composition of food products used for prevention and population treatment.

**8. Competences in accordance with the educational program:**

**Soft-skills / General competences (GC):**

GC 02. Knowledge and understanding of the subject area; understanding of professional activity.

GC 05. Ability to evaluate and ensure the quality of performed works.

GC 09. Ability to use information and communication technologies

GC 11. Ability to apply knowledge in practical situations, make informed decisions.

GC 12. Ability to conduct research at the appropriate level.

### **Hard-skills / Professional (special) competences (PC):**

- PC 1. Ability to integrate knowledge and solve complex pharmacy problems in broad or multidisciplinary contexts.
- PC 2. Ability to collect, interpret and apply data necessary for professional activity, research and implementation of innovative projects in the field of pharmacy.
- PC 3. Ability to solve pharmacy problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
- PC 4. The ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments in the field of pharmacy to specialists and non-specialists, in particular to people who are studying.
- PC 6. The ability to consult on prescription and non-prescription drugs and other products of the pharmacy assortment; pharmaceutical care during the selection and sale of an over-the-counter medicinal product by evaluating the risk/benefit ratio, compatibility, indications and contraindications guided by data on the health status of a specific patient, taking into account the biopharmaceutical, pharmacokinetic, pharmacodynamics and physicochemical features of the medicinal product and other products of the pharmacy assortment.
- PC 10. Ability to ensure proper storage of medicines and other products of the pharmacy assortment in accordance with their physico-chemical properties and the rules of Good Storage Practice (GSP) in healthcare facilities.
- FC 19. Ability to organize and carry out quality control of medicinal products of natural and synthetic origin in accordance with the requirements of the current edition of the State Pharmacopoeia of Ukraine, quality control methods (quality control methods), technological instructions, etc.; to prevent the distribution of low-quality, falsified and unregistered medicinal products.
- PC 19. Ability to organize and carry out quality control of medicinal products of natural and synthetic origin in accordance with the requirements of the current edition of the State Pharmacopoeia of Ukraine, quality control methods (QC), technological instructions, etc.; to prevent the distribution of low-quality, falsified and unregistered medicinal products.
- PC 20. Ability to develop and evaluate methods of quality control of medicinal products of natural and synthetic origin, including active pharmaceutical ingredients, medicinal plant raw materials and auxiliary substances using physical, chemical, physico-chemical, biological, microbiological and pharmaco-technological methods; carry out standardization of medicinal products in accordance with current requirements.

### **9. The program learning outcomes: (PLO):**

- PLO 1. To have and apply specialized conceptual knowledge in the field of pharmacy and related fields, taking into account modern scientific achievements.
- PLO 2. Critically consider scientific and applied problems in the field of pharmacy.
- PLO 3. To have specialized knowledge and skills/skills for solving professional problems and tasks, including for the purpose of further development of knowledge and procedures in the field of pharmacy.
- PLO 6. Develop and make effective decisions to solve complex/complex problems of pharmacy personally and based on the results of joint discussion; formulate the goals of one's own activity and the activity of the collective, taking into account public and industrial interests, the general strategy and existing limitations, determine the optimal ways to achieve goals.
- PLO 7. Collect the necessary information on the development and production of medicinal products, using professional literature, patents, databases and other sources; systematize, analyze and evaluate it, in particular, using statistical analysis.
- PLO 8. Formulate, argue, clearly and concretely convey to specialists and non-specialist's information based on one's own knowledge and professional experience, the main trends in the development of world pharmacy and related industries.
- PLO 9. To carry out professional activities using information technologies, "Information databases", navigation systems, Internet resources, software and other information and communication technologies.
- PRN 12. Determine the advantages and disadvantages of drugs of natural and synthetic origin of various pharmacological groups, taking into account their chemical, physicochemical, biopharmaceutical, pharmacokinetic and pharmacodynamics features and the type of dosage form. Recommend to consumer's medicinal products and other products of the pharmacy assortment with the provision of advisory assistance and pharmaceutical care.

PLO 17. Predict and determine the impact of environmental factors on the quality and consumer characteristics of medicinal products of natural and synthetic origin and other products of the pharmacy assortment, organize their storage in accordance with their physical and chemical properties and the rules of Good Storage Practices (GSP).

PLO 26. Provide and implement quality control of medicinal products of natural and synthetic origin and document its results; issue quality certificates and analysis certificates taking into account the requirements of the current edition of the State Pharmacopoeia of Ukraine, quality control methods (QC), technological instructions, etc.; take measures to prevent the distribution of low-quality, falsified and unregistered medicinal products.

PLO 27. Determine the main chemical and pharmaceutical characteristics of medicinal products of natural and synthetic origin; choose and/or develop quality control methods for the purpose of their standardization using physical, chemical, physico-chemical, biological, microbiological and pharmaco-technological methods in accordance with current requirements.

**10. Status of the educational component:** *selective*.

**11. Prerequisites of the discipline:** is based on the knowledge obtained by students of higher education during the study of normal and pathological human physiology, organic chemistry, biological chemistry.

**12. The volume of the educational component:** 3.0 ECTS credits (90 h): 8 hours - lectures, 26 hours - practical classes, 56 hours of independent work.

**13. Organization of training:**

**Teaching format of the educational component:** lectures, practical classes.

### **Content of the educational component:**

#### **Content module 1.** *Nutritional foundations of rational and medical nutrition*

**Topic 1.** General concepts of energy metabolism.

**Topic 2.** The main provisions of rational nutrition.

**Topic 3.** The concept of medical nutrition, its types. Alternative types of food.

**Topic 4.** The concept of food poisoning and its prevention

**Topic 5.** Basics of nutrition science

#### **Content module 2.** *Evaluation of the nutritional composition of food products that form the basis of medical nutrition, rational nutrition of people of different sexes, ages and types of activities*

**Topic 6.** Nutrient composition of food products in various nosological forms of diseases

**Topic 7.** Basics of rational nutrition for pregnant women and women who have breastfed children

**Topic 8.** Basics of rational nutrition for children and adolescents

**Topic 9.** Basics of rational nutrition for the elderly

**Topic 10.** Basics of rational nutrition for athletes

**Topic 11.** Peculiarities of nutrition of workers in production with harmful working conditions

**14. Forms and types of academic achievements supervision:**

#### ***Forms and types of academic achievements supervision***

*Current control* of theoretical and practical knowledge in the form of an oral, written and test survey using standardized methods for diagnosing knowledge, abilities and skills is carried out at each laboratory session in accordance with the specific goals of the topic and during the individual work of the teacher for topics that are not included in the structure of the lesson and are developed by the student of higher education independently.

*Control of content modules* - control of theoretical knowledge in the form of an oral, written and test survey of applicants for higher education, as well as practical skills in determining the identity and benignity of MPM. Control refers to knowledge and skills, both acquired in classes, and objects and topics developed independently by students of higher education.

Form of control - semester credit.

### 15. Evaluation system of the educational component:

The results of the semester control in the form of a semester credit are evaluated on a 100-point, undifferentiated scale ("passed", "failed") and on the ECTS scale.

Points from the educational component are calculated according to the following ratio:

Types of assessment	Maximum number of points (% of the number of points per module - for content modules)
Модуль 1	
Content module 1: • assessment of topics (1-5) (work in classes 1-5): work in classes (oral survey, writing input controls, solving logical problems); • control of content module 1 (solving theoretical, practical and logical tasks)	50 (50 %)
Content module 2: • assessment of topics (6-11) (work in classes 6- 11): work in classes (oral survey, writing input controls, solving logical problems); • control of content module 2 (solving theoretical, practical and logical tasks)	50 (50 %)
Semester control of the module	100

**The independent work of students of higher education is evaluated during the current control and during the control of the content module**

### 16. Academic policies of the educational component:

*Academic Integrity Policy.* It is based on the principles of academic integrity stated in the POL "On measures to prevent cases of academic plagiarism at the National University of Ukraine". Writing off when evaluating the success of a student of higher education during control activities in practical (seminar, laboratory) classes, control of content modules and semester exams is prohibited (including using mobile devices). Abstracts must have correct text references to the used literature. The detection of signs of academic dishonesty in the student's written work is a reason for the teacher not to enroll it.

*Class attendance policy.* An applicant for higher education is obliged to attend classes (POL "On the organization of the educational process of the National University of Pharmacy ") according to the schedule (<https://nuph.edu.ua/rozklad-zanyat/>), to observe ethical norms of behavior.

*Policy regarding deadlines, working out, rating increase, liquidation of academic debts.* The completion of missed classes by an applicant for higher education is carried out in accordance with the POL "Regulations on the completion of missed classes by applicants and the procedure for eliminating academic differences in the curricula of the National University of Pharmacy" in accordance with the schedule for working out missed classes established by the department. Increasing the rating and liquidating academic debts from the educational component is carried out by the applicants in accordance with the procedure specified in the POL "On the procedure for evaluating the results of training of applicants for higher education at the National University of Pharmacy ". Applicants of higher education are obliged to comply with all deadlines set by the department for the completion of written works from the educational component. Works that are submitted late without valid reasons are assessed at a lower grade - up to 20% of the maximum number of points for this type of work.

*Policy on appeals of evaluation of the educational component (appeals).* Applicants for higher education have the right to contest (appeal) the evaluation of the educational component obtained during control measures. The appeal is carried out in accordance with the POL "Regulations on appealing the results of the final supervision of knowledge by applicants of higher education at the National University of

Pharmacy".

# 17. Information and educational and methodical support of the discipline:

<b>The main reading suggestions</b>	<ol style="list-style-type: none"> <li>1. Sultaniyazovich Y. M., Shamshaddinova A. Z., Alisherovna S. G. Definition of a Rational Diet Woman's Nutrition during Pregnancy. <i>World Bulletin of Public Health</i>. 2023. № 18. P. 76-81.</li> <li>2. Monte C. M. G., Giugliani E. R. J. Recommendations for the complementary feeding of the breastfed child. <i>Jornal de pediatria</i>. 2004. № 80. P. s131-s141.</li> <li>3. Nutrition-related health behaviours and prevalence of overweight and obesity among Polish children and adolescents / Wojtyla-Buciora P. et al. <i>Annals of Agricultural and Environmental Medicine</i>. 2013. № 20 (2).</li> <li>4. Rational nutrition of modern human / Lupu L. D. M. et al. 4th International multidisciplinary scientific conference on social sciences and arts sgem. 2017. P. 573-578.</li> <li>5. Organization Of Rational Nutrition of Athletes in Training and Competitive Activities // Saparbaevna R. R. et al. <i>Specialusis Ugdymas</i>. 2022. № 2 (43). P. 3566-3568.</li> </ol>
<b>Supplementary reading suggestions for in-depth study of the educational component</b>	<ol style="list-style-type: none"> <li>1. Early breastfeeding experiences of adolescent mothers: a qualitative prospective study / Smith P. H. et al. <i>International breastfeeding journal</i>. 2012. № 7. P. 1-14.</li> <li>2. Pomohaibo K., Harmanpreet S. The role of the family, educational institutions and primary health care in the organization of rational nutrition and the prevention of overweight in children and adolescents . <i>Громадське здоров'я в Україні: проблеми та способи їх вирішення</i>. 2022. P. 219.</li> <li>3. Assessment of nutritional habits and preferences among secondary school students / Duma-Kocan P. et al. <i>Roczniki Państwowego Zakładu Higieny</i>. 2017. № 68 (1).</li> <li>4. Important determinants to take into account to optimize protein nutrition in the elderly: solutions to a complex equation / Dardevet D. et al. <i>Proceedings of the Nutrition Society</i>. 2021. № 80 (2). P. 207-220.</li> <li>5. Ermatova S. U. The role of nutrition in the development of athletes'ability. <i>Current research journal of pedagogics</i>. 2021. № 2 (10). P. 86-90.</li> <li>6. Zinovyeva E., Balynskaya N., Koptyakova S. Features of sanitary and epidemiological population welfare in monoprofile cities within the conditions of technogenic environment. <i>Padua Research Archive-Institutional Repository</i>. 2019. P. 54.</li> <li>7. The effectiveness of worksite nutrition and physical activity interventions for controlling employee overweight and obesity: a systematic review / Anderson L. M. et al. <i>American journal of preventive medicine</i>. 2009. № 37 (4). P. 340-357.</li> <li>8. Fieldhouse P. Food and nutrition: customs and culture. Springer, 2013.</li> <li>9. ESPEN guidelines on definitions and terminology of clinical nutrition / Cederholm T. et al. <i>Clinical nutrition</i>. 2017. № 36 (1). P. 49-64.</li> </ol>
<b>Current electronic information resources (magazines, websites) for in-depth study of the educational component</b>	<ol style="list-style-type: none"> <li>1. Website of the Department of Chemistry of Natural Compounds – <a href="http://www.cnc.nuph.edu.ua">www.cnc.nuph.edu.ua</a></li> <li>2. Website of the NUPh library – <a href="http://lib.nuph.edu.ua">http://lib.nuph.edu.ua</a></li> <li>3. Vernadsky National Library of Ukraine – <a href="http://www.nbuv.gov.ua">http://www.nbuv.gov.ua</a></li> <li>4. V. N. Karazin Kharkiv National University (Official Website) – <a href="http://www.univer.kharkov.ua">http://www.univer.kharkov.ua</a></li> <li>5. Website of the KhNMU Scientific Library – <a href="http://libr.knmu.kharkov.ua">http://libr.knmu.kharkov.ua</a></li> <li>6. V.G. Korolenko Kharkiv State Scientific Library – <a href="http://korolenko.kharkov.com">http://korolenko.kharkov.com</a></li> <li>7. The National Center for Biotechnology Information advances science and health - <a href="http://www.ncbi.nlm.nih.gov/pubmed">http://www.ncbi.nlm.nih.gov/pubmed</a>.</li> </ol>

<b>Distance learning system Moodle</b>	<a href="https://pharmel.kharkiv.edu/moodle/course/view.php?id=5090">https://pharmel.kharkiv.edu/moodle/course/view.php?id=5090</a>
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**18. Technical support and software of the educational component:** computers for testing, multimedia device, screen.