

**SYLLABUS OF THE EDUCATIONAL COMPONENT  
Manufacturing pharmaceutical practice  
in ORGANIZATION AND ECONOMICS OF PHARMACY**

**for applicants for higher education of 4 year of study (4,10 year of study)  
of educational program «Pharmacy»  
in specialty “226 Pharmacy, industrial pharmacy”  
field of knowledge “22 Health Care”  
training for second (master's) level**

**TEACHERS**



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**1. Name of higher education establishment and department:** National University of Pharmacy, Department of Social Pharmacy.

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**3. Website:** <http://socpharm.nuph.edu.ua>

**4. Information about teachers:**

**Tereshchenko Lyubov Volodymyrivna** – candidate of Pharmaceutical Sciences, Associate Professor, Associate Professor of the Department of Social Pharmacy. Experience of scientific and pedagogical activity – 10 years. Teaches disciplines "Introduction to Speciality", "Pharmaceutical Law and Legislation", "Organization and Economics of Pharmacy", "Social pharmacy". Research interests: research of leading experience countries of the world on the issues of informatization of the health care system (eHealth) and the introduction of the latest technologies in electronic prescription in Ukraine; solving problems of prescription drugs in modern conditions.

**Surikova Iryna Oleksandrivna** – candidate of Pharmaceutical Sciences, Assistant of the Department of Social Pharmacy. Experience of scientific and pedagogical activity – 5 years. Teaches disciplines: " Introduction to Speciality", "Pharmaceutical Law and Legislation", " Organization and Economics of Pharmacy", "Social pharmacy". Research interests: regulatory and legal regulation of medical and pharmaceutical activities, the formation of the principles of social pharmacy in domestic practice.

**5. Consultations** take place in an online format according to the teachers' schedule posted on the department's website.

**6. Brief summary of the educational component:** the modern development of pharmacy requires specialists in the field to have a fairly high level of knowledge and creative initiative, to possess the norms of pharmaceutical legislation and effective computer technologies in order to provide quality pharmaceutical care to the population. The educational component "Organization and economics of pharmacy" is one of the most important profile disciplines that forms in future specialists the professionally necessary knowledge, skills and abilities in the field of planning, organization, analysis, control and accounting of the activities of pharmacy institutions regarding the organization of providing quality pharmaceutical care to the population. a feature of the discipline is its dynamism in view of changes in the socio-economic and political situation in the country, market conditions, and changes in legislation.

**7. The purpose statement of studying the educational component:** formation of knowledge about the organization of the work of a pharmacy as a health care and trade institution; the structure and functions of the pharmacy; on the main issues of ensuring the sanitary and anti-epidemic regime of pharmacies; development trends of the pharmaceutical industry in the countries of the world and in Ukraine; formation of students' theoretical foundations and important professional skills in organizing the provision of medicines to the population.

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

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

GC 6. Knowledge and understanding of the subject area and understanding of professional activity.

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

PC 2. Ability to provide medical advice on prescription and over-the-counter medications and other products of the pharmacy range; pharmaceutical care during the selection and sale of over-the-counter medications by assessing the risk / benefit, compatibility, indications and contraindications based on data on the health of a particular patient, taking into account biopharmaceutical, pharmacokinetic, pharmacodynamic and physicochemical characteristics of the medicine and other pharmaceutical products.

PC 8. Ability to organize the activities of pharmacies to provide the population, health care institutions with medications and other products of the pharmacy range and implement appropriate reporting and accounting systems (management, statistical, accounting and financial) in accordance with the requirements of the National Medical Policy, Appropriate Pharmacy Practice (GPP) and to carry out commodity analysis, administrative record keeping while taking into account the organizational and legal norms of the pharmaceutical legislation.

PC 9. Ability to analyze and forecast the main economic indicators of pharmacies, to calculate basic taxes and fees, to form prices for medicines and medical devices in accordance with current legislation of Ukraine..

**9. Programmed learning outcomes (PLO):**

PLO 1. To carry out professional activities in social interaction based on humanistic and ethical principles; to identify future professional activities as socially significant for human health.

PLO 2. To apply knowledge of general and professional disciplines in professional activities.

PLO 3. To adhere to the norms of sanitary and hygienic regime and safe-ty requirements in carrying out professional activities.

PLO 4. To demonstrate the ability to independently search, analyze and synthesize information from various sources and use these results to solve typical and complex specialized tasks of professional activity.

PLO 5. To position your professional activities and personal qualities in the pharmaceutical labor market; to formulate the purposes of own activity taking into account public and industrial interests.

PLO 6. To argue information for decision-making, to be responsible for it in standard and non-standard professional situations; to adhere to the principles of deontology and ethics in professional activities.

PLO 7. To perform professional activities using creative methods and approaches.

PLO 8. To carry out professional communication in the state language, use the skills of oral communication in a foreign language, while analyzing texts of professional field and translate foreign language informational sources.

PLO 9. To carry out professional activities using information technology, "Information Databases", navigation systems, Internet resources, software and other information and communication technologies.

PLO 11. To use methods for assessing performance indicators; to identify reserves to increase labor efficiency.

PLO 12. To analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

PLO 14. To determine the advantages and disadvantages of medications of different pharmacological groups, taking into account their chemical, physico-chemical, biopharmaceutical, pharmacokinetic and pharmacodynamic features. To recommend to consumers over-the-counter medications and other products of the pharmaceutical range with the provision of counseling and pharmaceutical care

PLO 19. To predict and determine the impact of environmental factors on the quality of medicines and consumer characteristics of other products of the pharmaceutical range during their storage.

PLO 20. To carry out a set of organizational and managerial measures to provide the population and health care facilities with medicines and other products of the pharmaceutical range. To carry out all types of accounting in pharmacies, administrative records, processes of commodity analysis.

PLO 21. To calculate the main economic performance of pharmacies, as well as taxes and fees. To form all types of prices (wholesale, purchase and retail) for medicines and other products of the pharmaceutical range.

PLO 23. To take into account the data on socio-economic processes in society for the pharmaceutical provision of the population, determine the effectiveness and availability of pharmaceutical care in terms of health insurance and reimbursement of the cost of medicines.

PLO 24. To plan and implement professional activities on the basis of regulations of Ukraine and recommendations of good pharmaceutical practices.

PLO 25. To promote health, including disease prevention, rational use and use of medicines. To perform your professional duties in good faith, comply with the law on the promotion and advertising of medicines. To have psychological communication skills to build trust and understanding with colleagues, doctors, patients, consumers.

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

**11. Prerequisites of the educational component:** is based on the study of the educational component Introduction to the profession, pharmacy technology of drugs, organization and economy of pharmacy, pharmaceutical marketing and management, pharmaceutical and medical commodity science, social pharmacy, which involves integration with the above-mentioned educational components for the formation of skills to apply knowledge in professional activities.

**12. The volume of the educational component:** 6 ECTS credits, 180 hours

**13. Organization of training:**

**The format of teaching the educational component:** informing applicants of higher education about the purpose, term, content of practice, preparation of necessary documents; completion of practice and independent performance of tasks by the student of higher education under the guidance of the head of practice from the department and from the enterprise.

**Content of the educational component:**

*Content module 1. Organization of pharmaceutical provision of the population. Accounting system in pharmacy. Basics of pharmacy economics*

**Theme 1.** Organization structure of pharmacy as a trading-production enterprise, nomenclature of staff positions in pharmacy.

**Theme 2.** State regulation of pharmaceutical activity. Government control and regulation of pharmaceutical activity. Licensing in pharmaceutical industry.

**Theme 3.** Organization of pharmaceutical care. Conception of responsible self- medication.

**Theme 4.** The Organization of prescription department in pharmacy.

**Theme 5.** Organization of the quality control system of pharmaceutical products. The order of carrying out of the entrance control.

**Theme 6.** Organization of work with commodity supplies

**Theme 7.** The organization of the automatization and information work in pharmacy.

**Theme 8.** Reporting of pharmacy establishments.

**Theme 9.** Organization of the system of accounting and accounting in pharmacies (pharmaceutical firms).

**Theme 10.** The financial statements of the pharmacy.

**Theme 11.** The accounting cycle.

**Theme 12.** Forms and systems of a payment and the account of work and wages in pharmacies(pharmaceutical firms).

**Theme 13.** Organization of inventory of commodities in pharmacies (pharmaceutical firms).

The organization of work with commodities. Kinds and purpose of the inventory.

**Theme 14.** Planning of activity of pharmacies (pharmaceutical firms). Economic analysis of expenses of pharmacy.

**Theme 15.** Economic analysis of trading imposing, profit, profitability

**Theme 16.** Economic analysis of the indexes determining result of trading activity of pharmacy depending on the standard of prices on medicines.

**Theme 17.** Analysis of financial results of activity of enterprise on the basis of data of the financial reporting. Taxation of pharmacies (pharmaceutical firms).

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

*Control of knowledge in each lesson:* diary -report

*Control of content modules:* 1 content module is provided. CM1 solution of the situational task, which is given in the diary report.

*Semester control form:* semester differentiated credit.

*Conditions of admission to the control of content modules:* completed diary report.

*Conditions for admission to the semester control:* completed diary-report, fulfillment of all requirements stipulated by the work program of the educational component.

**15. Evaluation system of the educational component**

Graduates of higher education who have completed all types of work provided for in the curriculum are admitted to the semester-based differential assessment. Appraisal for practice is given only to higher education graduates who have completed the industrial practice program and have a properly prepared diary-report.

**The system for assessing the knowledge of higher education applicants in the educational component**

Designing a practice diary-report	Control of CM 1	Total
60	40	100

**Evaluation criteria for the diary-report of practice**

Points	Evaluation criteria
60	The task was completed in full, all accompanying forms (documents) were filled out, all necessary calculations were made, registration was made in the relevant accounting journals, and business transactions carried out in the pharmacy were documented.
59-50	The task was completely completed by 100%, minor errors were made in the calculations or the presentation of the results
49-40	The task was not fully completed by 70%, errors were made in the calculation and presentation of the results, the wrong solution algorithm was applied
39-30	The task was not fully completed by 50%, errors were made in the calculation and presentation of the results, the wrong solution algorithm was applied
29-20	The task was not fully completed by 40%, errors were made in the calculation and presentation of the results, the wrong solution algorithm was applied
19-10	The task was not fully completed by 30%, errors were made in the calculation and presentation of the results, the wrong solution algorithm was applied
9-1	The task was not fully completed by 20%, errors were made during calculations and results, the wrong solution algorithm was applied
0	there is no practice diary-report

**Evaluation criteria of control CM 1**

The type of task being evaluated	Knowledge evaluation system, points	Evaluation criteria
Test questions	From 0 to 30	1 point for each correct answer
Oral communication with a higher education applicant regarding the situational tasks completed in the diary-report	10,0	The student of higher education gave an oral answer to the situational task independently without errors
	5,0-9,0	The oral answer was given on the situational task independently, the appropriate algorithm was applied, however, mistakes were made in the calculations
	1,0-4,5	The oral answer was given in relation to the situational task independently, however, significant errors were made in the calculations or the wrong solution algorithm was applied
	0	The student of higher education could not provide an answer to the situational task.

**The individual work of applicants for higher education is evaluated during the control of knowledge at each lesson and during the content module supervision.**

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

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 Pharmacy". Cheating during the evaluation of an applicant for higher education during supervision activities in practical (seminar, laboratory) classes, supervision of content modules and the semester exam is prohibited (including the use of 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 credit 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 educational component:**

<b>The main reading suggestions</b>	Methodological developments for classroom work (multimedia materials, lecture texts), which are posted on the website of distance learning technologies of the National Pharmaceutical University:
<b>Supplementary reading suggestions for in-depth study of the educational component</b>	<ol style="list-style-type: none"> <li>1. Joint FIP/WHO guidelines on good pharmacy practice: standards for quality of pharmacy services from the WHO technical report series, No. 961, 45th report of the WHO Expert Committee on specifications for pharmaceutical preparations © World Health Organization 2011</li> <li>2. Directive 2001/83/EU of the European Parliament and the Council of the EU dated 06.11.2001 "On the consolidation of Community legislation on medicinal products for humans".</li> <li>3. Thomas R. Ittelson. Financial Statements: A Step-by-Step Guide to Understanding and Creating Financial Reports / – August 15, 2009. - P.284.</li> <li>4. The legal and regulatory framework for community pharmacies in the European Region/report WHO//accesses WHO <a href="https://apps.who.int/iris/bitstream/handle/10665/326394/9789289054249-eng.pdf">https://apps.who.int/iris/bitstream/handle/10665/326394/9789289054249-eng.pdf</a>.</li> <li>5. The WHO Model Lists of Essential Medicines (current and previous) are available on the WHO EMP website at: <a href="http://www.who.int/medicines/publications/essentialmedicines/en/">http://www.who.int/medicines/publications/essentialmedicines/en/</a>.</li> </ol>
<b>Current electronic information resources (magazines, websites) for in-depth study of the educational</b>	<ol style="list-style-type: none"> <li>1. Association Agreement between the European Union and Ukraine. Government portal. Available at: <a href="https://www.kmu.gov.ua/en/yevropejska-integraciya/ugoda-pro-asociacyu">https://www.kmu.gov.ua/en/yevropejska-integraciya/ugoda-pro-asociacyu</a>.</li> <li>2. International Pharmaceutical Federation (FIP): <a href="https://www.fip.org">https://www.fip.org</a></li> <li>3. Science library of NUPh: <a href="http://dspace.ukrfa.kharkov.ua">http://dspace.ukrfa.kharkov.ua</a>; <a href="http://lib.nuph.edu.ua">http://lib.nuph.edu.ua</a>.</li> <li>4. State Expert Center of the Ministry of Health of Ukraine: <a href="https://en.moz.gov.ua/article/news/the-state-expert-center-of-the-ministry-of-health-">https://en.moz.gov.ua/article/news/the-state-expert-center-of-the-ministry-of-health-</a></li> </ol>

<b>component</b>	<p>of-ukraine-has-received-the-official-status-of-ich-observer<a href="https://www.apteka.ua">https://www.apteka.ua</a> – офіційний сайт щотижневика «Аптека»</p> <p>5. Ministry of Health of Ukraine: <a href="https://en.moz.gov.ua">https://en.moz.gov.ua</a></p> <p>6. State Service of Ukraine on Medicines and Drugs Control. Site: <a href="https://www.dls.gov.ua/en/state-service-of-ukraine-on-medicines-and-drugs-control/">https://www.dls.gov.ua/en/state-service-of-ukraine-on-medicines-and-drugs-control/</a></p> <p>7. Ukrainian Scientific Pharmacopoeial Center for Quality of Medicines: <a href="http://sphu.org/en/about-us">http://sphu.org/en/about-us</a></p> <p>8. World Health Organization (WHO): <a href="https://www.who.int">https://www.who.int</a></p>
<b>Moodle distance learning system</b>	<a href="https://pharmel.kharkiv.edu/moodle/course/view.php?id=2733">https://pharmel.kharkiv.edu/moodle/course/view.php?id=2733</a>

**18. Technical and computer soft:** computers for testing, a multimedia projector for lectures, Internet access; video conferencing software ZOOM, modular object-oriented dynamic learning environment MOODLE 3.9.8.