



THE SYLLABUS OF THE EDUCATIONAL COMPONENT
SYSTEMIC ANALYSIS OF HEALTH INSTITUTIONS

for applicants for higher education of 5 year of study
 full-time form of education
 of educational program «**Pharmacy**»
 in specialty «**226 Pharmacy, industrial pharmacy**»
 field of knowledge «**22 Health care**»
 training for second (master's) level of higher education

TEACHERS

NAZARKINA Victoria	PhD in Economics, Doctor of Pharmacy, Professor	<u>victory.nazarkina@ gmail.com</u>	https://socpharm.nuph.edu.ua/category/teachers/nazarkina-viktoriia-mykolaivna/
MISHCHENKO Viktoriia	Candidate of Pharmaceutical Sciences, Associate Professor	<u>viktoriamischenko@ukr. net</u>	https://socpharm.nuph.edu.ua/category/teachers/mishchenko-viktoriia-ivanivna/

1. **The name of higher education establishment and department:** the National University of Pharmacy, Department of Social Pharmacy
2. **Address of the department:** 4, Valentynivska str., 3-4 rd floor, Kharkiv 057-67-91-81
3. **Website of the department:** www.socpharm.nuph.edu.ua
4. **Consultations** are held online in accordance with the schedule of teachers posted on the department's website at <https://socpharm.nuph.edu.ua/informacija-dlja-zdobuvachiv-vishhoi-osviti-na-period-karantinu/>
5. **Abstract of the educational component:** "System analysis of pharmaceutical institutions" allows to systematise and deepen theoretical knowledge and practical skills in the organization and economics of pharmacy for a comprehensive analysis of the financial and economic activities of pharmacies
6. **Purpose of teaching the educational component:** formation of professionally important knowledge, skills and abilities in higher education applicants to organise effective activities of pharmacies based on the results of system analysis.

7. Competencies in accordance with the educational program:

Soft-skills / General competencies (GC):

- GC 2. GC 3. Ability to abstract thinking, analysis, synthesis.
 GC 4. Ability to apply knowledge in practical situations.
 GC 5. Knowledge and understanding of the subject area and understanding of professional activity
 GC 8. Skills in the use of information and communication technologies.
 GC 9. Ability to learn and master modern knowledge.
 GC 10. Ability to conduct research at the appropriate level.
 GC 11. Ability to adapt and act in a new situation.
 GC 12. Ability to generate new ideas (creativity).

Hard-skills / Professional (special) competencies (PC):

- 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.

8. The program learning outcomes: (PLO):

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

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

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

PLO 18. To apply innovative approaches to management decision-making, to adapt flexibly to changes in the external environment.

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.

9. The status of the educational component:: *selective*

10. Prerequisites of the educational component: «*Social pharmacy*», «*Medical and pharmaceutical commodity science*», «*Pharmaceutical management and marketing*»

11. The scope of the educational component: 3 ECTS credits; the number of hours for the educational component is 90: for full-time students – 9 hours of lectures, 21 hours of practical classes, 60 hours of independent workes

12. Organization of training:

The following methods are used

- *explanatory (information and reproductive) method:* lecture-based learning – lectures, audio and video materials, other educational content;
- *reproductive method:* traditional practical, laboratory, seminar classes;
- *problem-based learning:* problem lecture, problem seminar/webinar, etc.; brainstorming; case-based learning – case study method; methods of interactive visualisation of the educational material – mind mapping, timeline, word clouds;
- *partially-search method:* game-based learning – business games, simulation games, role-playing games; project-based learning; team-based learning, training course;
- *research method:* research-based learning – participation in research work, preparation of abstracts of reports at the conference, scientific articles

The content of the educational component: *the list of topics*

Content of the educational component:

Content module 1. *Modern methods of analysis and planning of trade and financial activities of pharmacies and pharmaceutical companies*

Topic 1. *Pharmacy practice: basics of system analysis*

Topic 2. *Analysis and planning of the main economic indicators of pharmacy activity: prescription*

Topic 3. *Economic and financial analysis of pharmacies: a systematic approach*

Topic 4. *Break-even analysis (CVP-analysis) of the activity of a pharmacy*

Content module 1 control

The content module 2. *Economic mechanisms of regulation of pharmaceutical activity*

Topic 5. *Basics of financial analysis. Assessment of the property status of the enterprise. Analysis of the structure and dynamics of the balance sheet*

Topic.6 *Analysis of liquidity and solvency of a pharmacy*

Topic 7. *Evaluation of profitability and business activity of a pharmacy*

Topic 8. *Analysis of drug price indicators: liquidity of prices, adequacy of solvency and availability of drugs for the population*

Content module 2 control

Semester assessment

Organization of independent work: independent work includes the study of issues on the topics of the educational component that are not included in classroom classes and the completion of tasks on these issues in order to consolidate theoretical material.

13. Types and forms of control:

Current control

Knowledge control in each lesson (on each topic): oral questioning, test tasks, solving situational (calculation) problems, etc.

Control of content modules: oral questioning, test tasks, solving situational (calculation) problems, etc.

Conditions for admission to the control of content modules: 30 points for 1-4 classes, for content module 2, a minimum of 30 points for 5-8 classes. Semester credit for the module: “Systematic analysis of pharmaceutical institutions” minimum number of points 60 - maximum 100.

Conditions for admission to the control of content modules Semester control: semester credit.

Conditions for admission to the semester control: current rating of more than 60 points, no unexcused absences from practical classes, passing tests for each of the 8 topics.

14. Evaluation system for the educational component:

Assessment of the acquisition of topics of the educational component during classes:

<i>The number of the topic (lesson) of the educational component</i>	<i>The maximum number of points by topic (lesson)</i>	<i>Distribution of the maximum number of points per topic (lesson) by type of work</i>	<i>Types of work for which the applicant receives points</i>
Content module 1			
Topic 1.	7	2	testing
		1	oral answer
		3	solving of situational tasks
		1	solving tasks for independent work
Topic 2.	7	2	testing
		1	oral answer
		3	solving of situational tasks
		1	solving tasks for independent work
Topic 3.	8	2	testing
		1	oral answer
		3	solving of situational tasks
		2	solving tasks for independent work
Topic 4.	8	2	testing
		1	oral answer
		3	solving of situational tasks
		2	solving tasks for independent work
Total points for content module 1:		30	
Content module 2			
Topic 5.	7	2	testing
		1	oral answer
		3	solving of situational tasks

		1	<i>solving tasks for independent work</i>
Topic 6.	7	2	<i>testing</i>
		1	<i>oral answer</i>
		3	<i>solving of situational tasks</i>
		1	<i>solving tasks for independent work</i>
Topic 7.	8	2	<i>testing</i>
		1	<i>oral answer</i>
		3	<i>solving of situational tasks</i>
		2	<i>solving tasks for independent work</i>
Topic 8.	8	2	<i>testing</i>
		1	<i>oral answer</i>
		3	<i>solving of situational tasks</i>
		2	<i>solving tasks for independent work</i>
Total points for content module 2:		30	
Total points per module:		60	

The study of the educational component by higher education students is possible through non-formal education. Instead of performing types of work on the topic of the educational component, the following types of work of a higher education applicant may be credited:

- participation in master classes, forums, conferences, seminars, webinars on the topic of the educational component (with the preparation of essays, abstracts, information messages, etc., which is confirmed by the program of the event, or abstracts, or the relevant certificate)
- participation in research and applied studies on the topic of the educational component (in the development of questionnaire forms, conducting experimental studies, processing research results, preparing a report, presenting results, etc. as evidenced by the demonstration of relevant materials).

Assessment of applicants by type of work during classes:

<i>Types of work for which the applicant receives points</i>	<i>Maximum number of points</i>
<i>testing</i>	16
<i>oral answer</i>	8
<i>solving of situational tasks</i>	24
<i>solving tasks for independent work</i>	12
<i>Total points:</i>	60

Assessment during the control of content modules:

<i>Types of work for which the applicant receives points</i>	<i>Distribution of the maximum number of points for the control of the content module by type of work</i>	<i>Maximum number of points for the control of the content module</i>
Content module 1		
<i>testing</i>	5	20
<i>answer to a theoretical question</i>	7	
<i>solving situational tasks</i>	8	
Content module 2		
<i>testing</i>	5	20
<i>answer to a theoretical</i>	7	

<i>question</i>		
<i>solving situational tasks</i>	8	
<i>Total points for control of the content modules</i>		40

Evaluation of the independent work of the student:

during the current control: 12 points: 3 points each for solving tasks for independent work (Topics 1-8)

during the control of content module 1: tickets for content module 1 include theoretical questions, calculation tasks and test tasks on topics 1-4

during the control of content module 2: tickets for content module 2 include theoretical questions, calculation tasks and test tasks 5-8

The assessment scale of semester credit test:

When studying the educational component, several assessment scales are used: 100-point scale and undifferentiated assessment (pass/fail), two-point scale (for semester credit test) and ECTS rating scale. Results are converted from one scale to another according to the table.

Total points by a 100-point scale	ECTS rating scale	Assessment by an undifferentiated scale
90-100	A	passed
82-89	B	
74-81	C	
64-73	D	
60-63	E	
35-59	FX	failed
1-34	F	
1-34	F	

15. Academic policies of the educational component:

Academic Integrity Policy. It is based on the principles of academic integrity set forth in the Regulations "On measures to prevent cases of academic plagiarism at NUPh". Cheating in assessing the progress of a higher education student during control measures in practical classes, control of content modules and semester exams is prohibited. Detection of signs of academic dishonesty in the written work of the student is the basis for its non-accreditation by the teacher.

Class attendance policy. The applicant for higher education is obliged to attend classes (POL "On the organization of the educational process of the NUPh") according to the schedule (<https://nuph.edu.ua/rozklad-zanyat/>), to adhere to ethical standards 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".

16. Information and educational and methodological support of the discipline

Required reading	1. <i>Systems theory and systems analysis in economics: a textbook / OV Tyurin, O. Yu. Akhmerov – Odessa: «Odessa II Mechnikov National University», 2019. - 164 p</i>
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	http://dspace.onu.edu.ua:8080/handle/123456789/28119
Additional literature for in-depth study of the educational component	<ol style="list-style-type: none"> 1. Bielecki A., Nieszporska S. <i>Analysis of Healthcare Systems by Using Systemic Approach Hindawi Complexity</i> Vol. 2019, https://doi.org/10.1155/2019/6807140 2. Smólka J. <i>Institutional Analysis of Healthcare Systems in Selected Developed Countries</i> https://doi.org/10.1163/9789004517295_006 3. <i>Guideline for the Systems Analysis Investigation of Incidents; Revision №: 3, Approval Date: August 2016. – 78 p.</i> https://hse.ie/eng/about/QAVD/Incident-Management/HSE-Systems-Analysis-Investigation-Guidelines-Part-1-and-Part-2.pdf 4. <i>Guideline for the Systems Analysis Investigation of Incidents; Revision №: 3, Approval Date: August 2016. – 78 p.</i> https://hse.ie/eng/about/QAVD/Incident-Management/HSE-Systems-Analysis-Investigation-Guidelines-Part-1-and-Part-2.pdf
Current electronic information resources (magazines, websites) for in-depth study of the educational component	<ol style="list-style-type: none"> 1. <i>The page of the library on the website of the NATIONAL UNIVERSITY OF PHARMACY</i> – https://nuph.edu.ua/naukova-biblioteka/ 2. <i>Website of the Scientific Library of the NATIONAL UNIVERSITY OF PHARMACY of Ukraine</i> – https://lib.nuph.edu.ua/ 3. <i>State register of drugs (Expert center of drugs)</i> http://www.drlz.kiev.ua 4. <i>Directory of medicines</i> http://www.drlz.kiev.ua 5. <i>World Health Organization (WHO)</i>- http://www.who.int/ru/ 6. <i>Verkhovna Rada of Ukraine</i> – http://rada.gov.ua/ 7. <i>Cabinet of Ukraine (government portal)</i>– http://www.kmu.gov.ua/ 8. <i>Ministry of Health of Ukraine</i> – http://www.moz.gov.ua/ua/portal/ 9. <i>Ministry of Economy of Ukraine</i> – http://www.me.gov.ua/ 10. <i>Govt. Statistics Service of Ukraine</i> – http://www.ukrstat.gov.ua/ 11. <i>State Medical Service of Ukraine</i> – http://www.diklz.gov.ua/ 12. <i>Health Economics and Systems Analysis Group (HESA)</i> https://www.lshtm.ac.uk/research/centres-projects-groups/hesa
Moodle distance learning system	https://pharmel.kharkiv.edu/moodle/course/view.php?id=5169

18. Material and technical support and software of the educational component: computers for testing, multimedia device, screen. A set of services for organizing online and distance learning - Google Workspace for Education Standard, a program for organizing video conferences ZOOM, modular object-oriented dynamic learning environment MOODLE 3.9.8.