

MINISTRY OF HEALTH OF UKRAINE

ODESA NATIONAL MEDICAL UNIVERSITY

Department of Organization and Economics of Pharmacy with postdiploma specialization



WORKING PROGRAM IN THE DISCIPLINE

ORGANIZATION AND ECONOMICS OF PHARMACY BUSINESS

Level of higher education: second (master's degree)

Field of knowledge: 22 «Health care»

Specialty: 226 "Pharmacy, industrial pharmacy"

Educational and professional program: Pharmacy, industrial pharmacy

The working program is compiled on the basis of the educational and professional program "Pharmacy, industrial pharmacy" for the training of specialists of the second (master's) level of higher education in the specialty 226 "Pharmacy, industrial pharmacy" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU (minutes No. 10 dated 27/06/2024).

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The working program is approved at the meeting of the department of Organization and Economics of Pharmacy with post diploma specialization
 Minutes №. 1 dated 29/08/2024.

Head of the department



Oksana BIELIAIEVA

Approved by the guarantor of
 the educational and professional program



Liana UNHURIAN

Approved by the subject-cycle methodological commission for pharmacy's disciplines of ONMedU
 Minutes №. 1 dated 30/08/2024

Head of the subject-cycle methodological commission for pharmacy's disciplines of ONMedU



Natalia FIZOR

Revised and approved at the meeting of the department of Organization and Economics of Pharmacy
 Minutes №. __ dated __/__/20__.

Head of the department

Revised and approved at the meeting of the department of Organization and Economics of Pharmacy

Minutes №. __ dated __/__/20__.

Head of the department

1. Description of the discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the discipline
Total number of: Credits of ECTS: 3 Hours: 90 Content modules: 3	Branch of knowledge 22 «Health care» Specialty 226 "Pharmacy, Industrial pharmacy" Level of higher education second (master's)	<i>Full-time education</i> <i>Elective discipline</i> <i>Year of training: 5</i> <i>Semester: IX/X</i> <i>Lectures (0 hours)</i> <i>Seminars (0 hours)</i> <i>Practical classes (30 hours)</i> <i>Lab classes (0 hours)</i> <i>Independent work (60 hours)</i> <i>including individual assignments (0 hours)</i> <i>Final control – test</i>

2. 2. The Purpose and Objectives of the Discipline, Competencies, and Program Learning Outcomes.

Purpose: Acquisition of knowledge by a higher education seeker and formation of professionally oriented competencies in the field of pharmacy, knowledge of regularities of changes in the economic parameters of the company's activity, abilities and skills in the application of methods and tools for justifying economically effective management decisions.

The tasks of the discipline are the following:

- provide an introduction to pharmacy business running including human and financial management; pharmacy business environments; health economics; and professional, ethical obligations relevant to pharmacy management.

- **General (GC):**

GC 1. Ability to think abstractly, analyze and synthesize, learn and be modernly educated.

GC 5. The ability to evaluate and ensure the quality of the work performed.

GC 9. Ability to use information and communication technologies.

GC 10. The ability to act socially responsibly and consciously.

GC 13. Ability to show initiative and entrepreneurship.

GC 14. Ability to adapt and act in a new situation.

GC 16. The ability to conduct experimental research at the appropriate level.

- **Special (SC):**

SC 1. Ability to integrate knowledge and solve complex pharmacy problems in broad or multidisciplinary contexts.

SC 2. The ability to collect, interpret and apply data necessary for professional activity, research and implementation of innovative projects in the field of pharmacy.

SC 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.

SC 13. The ability to organize the activities of the pharmacy to provide the population, health care institutions with medicines and other products of the pharmacy assortment and to implement appropriate reporting and accounting systems in them, to carry out product analysis, administrative record keeping taking into account the requirements of pharmaceutical legislation.

SC 14. The ability to analyse and forecast the main economic indicators of the activity of pharmacies, to calculate the main taxes and fees, to form prices for medicines and other products of the pharmacy assortment in accordance with the current legislation of Ukraine.

SC 15. The ability to conduct an analysis of socio-economic processes in pharmacy, forms, methods and functions of the system of pharmaceutical provision of the population and its components in global practice, indicators of the need, effectiveness and availability of pharmaceutical care in terms of medical insurance and reimbursement of the cost of medicines.

SC 18. The ability to organize and carry out general and marketing management of assortment, product and innovation, price, sales and communication policies of pharmaceutical market subjects based on the results of marketing research and taking into account market processes at the national and international levels, manage risks in the pharmaceutical supply system.

Program learning outcomes (PLO):

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

PLO 2. Apply knowledge of general and special disciplines in professional activities.

PLO 5. To assess and ensure the quality and efficiency of activities in the field of pharmacy.

PLO 21. Calculate the main economic indicators of the activity of pharmacies, as well as taxes and fees. To form all types of prices (wholesale, sale, purchase and retail) for medicines and other goods of the pharmacy range.

As a result of studying the academic discipline, the student of higher education must:

Know:

Basic principles of organization of provision of medicines to the population

- Organizational structure of the pharmaceutical industry and its state regulation in Ukraine
- Levels of management contributions and economic analysis in business decision making
- Rational pharmaceutical management
- Formulary system
- Role of a clinical pharmacist in rational pharmaceutical management
- Economic mechanisms for increasing the availability of medicines for different segments of the population
 - Methods of calculating trade margins and retail prices
 - Cost reimbursement
 - Pharmacy store management
 - Pharmacy inventory control
 - Professional rights and benefits for pharmaceutical employee
 - Mandatory deductions from the payroll
 - the Concept of Consumer Behaviour
 - Consumer Behaviour research process
 - the Factors affecting consumer behaviour
 - the Consumer decision process
 - the Impact of consumer's motivation, personality on the buying behaviour.

Be able to:

- apply principles of pharmacy business management;
- describe the health, policy and business environments in which pharmacy operates;
- critically analyse methods of economic evaluation used to determine the costs and outcomes; and
 - evaluate professional, ethical and legal obligations for pharmacists from a pharmacy business perspective
 - explain the concept of Consumer Behaviour

Content of the Discipline

Topic 1. Pharmaceutical care within the national health policy. National drug policy. Basic principles of organization of provision of medicines to the population. Organizational structure of the pharmaceutical industry and its state regulation in Ukraine, levels of management. Classification of drugs in the world pharmaceutical practice. The essence of the anatomical-therapeutic-chemical (ATC) classification system. State Register of Medicines, structure, scope of application.

Topic 2. Rational pharmaceutical management. The main directions of implementation of rational pharmaceutical management. State Formulary of Medicinal Products, structure, scope of application. National List of Essential Medicines, structure, scope of application. Experience of using the formulary system in other countries. Structure of the formulary system in Ukraine. Formation of the List of Essential Medicines. The role of the formulary commission of a health care institution. The role and place of a clinical pharmacist in rational pharmaceutical management. Development of a formulary list of medicines for a multidisciplinary hospital. Development of a formulary reference book. The main approaches to maintaining the formulary system.

Topic 3: Pharmaceutical Prices and Affordability. Pricing of medicines as a national and international problem. The concept of cost and price of medicines. Types of prices, their functions. Basic principles of pricing for medicines. Price structure for industrially produced medicines. Mechanisms of state regulation of prices and tariffs. Analysis of economic mechanisms for increasing the availability of medicines for different segments of the population. Reference pricing. Monitoring of prices. Methods of calculating trade margins and retail prices for finished medicines and medical devices. Cost reimbursement.

Topic 4: Inventory management in Pharma companies. Management of pharmaceutical and non-pharmaceutical items to ensure efficient operations, customer satisfaction, safety, and compliance with regulatory requirements. Pharmacy store management and inventory control as aspects of running a successful and efficient pharmacy's company. Maintain costs in pharmacy's company

Topic 5: Human resources in Pharma companies. Regulatory and legal regulation of professional rights and benefits for pharmaceutical workers. State social guarantees in the field of income. Forms and systems of remuneration. Structure and characteristics of the payroll fund. Methods of planning the number of employees. Procedure for recording working hours and wages. Guarantee and compensation payments. Mandatory deductions from the payroll. Single social contribution, characteristics, calculation rules. Criteria for setting salaries for administrative, managerial and production personnel.

Topic 6: Consumer Behaviour and Pharmacy Business. Introduction to Consumer Behaviour: Definition, Nature, Scope, Consumer Behaviour's Applications in Marketing. Consumer research process. Factors affecting Consumer Behaviour: External Influences (Culture, Sub Culture, Social Class, Reference Groups, Family), Internal Influences (Needs & Motivations, Perception, Personality, Lifestyle, Values, Learning, Memory, Beliefs & Attitudes). Consumer Decision Making Process. Types of consumer decisions. Consumer Motivation & Personality.

3. The Structure of the Discipline

Names of topics	Number of hours					
	Total	including				
		lectures	seminars	practical classes	Lab classes	ISW
Topic 1. Pharmaceutical care within the national health policy.	14	-	-	4	-	10
Topic 2. Rational pharmaceutical management	14	-	-	4	-	10
Topic 3: Pharmaceutical Prices and Affordability.	14	-	-	4	-	10

Topic 4: Inventory management in Pharma companies	16	-	-	6	-	10
Topic 5: Human resources in Pharma companies	16	-	-	6	-	10
Topic 6: Consumer Behaviour and Pharmacy Business	16	-	-	6	-	10
Total hours	90	-	-	30	-	60

5. Topics of Lectures / Seminars / Practical Classes/ Laboratory Classes

5.1. Topics of lectures

Lectures are not provided.

5.2. Topics of seminar classes

Seminar classes are not provided.

5.3. Topics of practical classes

No	Topic name	hours
1.	Topic 1. Practical class 1. Organizational structure of the pharmaceutical industry and its state regulation in Ukraine, levels of management	2
2.	Topic 1. Practical class 2. Pharmaceutical care policy: Structure and design	2
3.	Topic 2. Practical class 3. Structure of the formulary system in Ukraine. Formation of the List of Essential Medicines.	2
4.	Topic 2. Practical class 4. The role and place of a clinical pharmacist in rational pharmaceutical management	2
5.	Topic 3. Practical class 5. The concept of cost and price of medicines. Types of prices, their functions. Monitoring of prices.	2
6.	Topic 3. Practical class 6. Economic mechanisms for increasing the availability of medicines. Reference pricing.	2
7.	Topic 4. Practical class 7. Inventory management processes and systems. Basic steps of inventory management	2
8.	Topic 4. Practical class 8. Inpatient medication management	2
9.	Topic 4. Practical class 9. Pharmaceutical disposal	2
10.	Topic 5. Practical class 10. Regulatory and legal regulation of professional rights and benefits for pharmaceutical workers	2
11.	Topic 5. Practical class 11. Forms and systems of remuneration. Structure and characteristics of the payroll fund	2
12.	Topic 5. Practical class 12. Guarantee and compensation payments. Mandatory deductions	2
13.	Topic 6. Practical class 13. Factors influencing Consumer Behaviour	2
14.	Topic 6. Practical class 14. Types of consumer decisions, Consumer Decision Making Process	2
15.	Topic 6. Practical class 15. Consumer Motivation & Personality.	2
	Total	30

5.4. Topics of laboratory classes

Laboratory classes are not provided.

6. Independent Student Work

No	Title of the topic / types of assignments	hours
1.	Topic 1. Preparation for practical classes 1-2	10

2.	Topic 2. Preparation for practical classes 3-4	10
3.	Topic 3. Preparation for practical class 5-6	10
4.	Topic 4. Preparation for practical classes 7-9	10
5.	Topic 5. Preparation for practical classes 10-12	10
6.	Topic 6. Preparation for practical classes 13-15	10
	Total	60

7. Teaching methods

Practical classes: Methods by the presentation and perception of information :

- Verbal: narrative, explanation, conversation, instruction, discussion, debate, discussion of problem situations, situational learning.
- Visual: illustration (including multimedia presentations), demonstration, method of direct observation, presentation of the results of own research.
- Practical: assignments; training tasks

Independent work in the study of the academic discipline is ensured methodological developments for independent work, visual teaching aids (video lectures, presentations), information resources of the department, topics of independent work

8. Forms of Control and Assessment Methods (including criteria for evaluating learning outcomes)

Current control: oral survey, control written works, evaluation of reports, evaluation of activity in the class, testing (pen-and-paper or computerized), evaluation of required skills

Final control: test.

Evaluation of the current educational activity in a practical class:

1. Evaluation of theoretical knowledge on the topic of the class:
 - methods: survey, solving a situational clinical problem;
 - the highest grade available is 5, the lowest passing grade is 3, the failing (unsatisfying) grade is 2.
2. Evaluation of practical skills on the subject of the lesson:
 - methods: standardized and include control of vocabulary, grammar, and communication skills;
 - the highest grade available is 5, the lowest passing grade is 3, and the failing (unsatisfying) grade is 2.

Current Evaluation Criteria at Practical Classes

Rating	Evaluation criteria
"5"	The higher education (HE) student is fluent in the material required, can perform the tasks provided for in the program successfully; has demonstrated creative abilities in understanding and using educational program material and the ability to update and replenish knowledge independently
"4"	The HE student has demonstrated complete knowledge of the educational program material, successfully performs the tasks provided by the program, has mastered the basic literature recommended by the program, but makes minor mistakes, which are eliminated by the student him/herself when a tutor points them out
"3"	The HE student does not have sufficient knowledge but knows the fundamental curriculum material to the extent necessary for further education and subsequent work in the profession; makes some mistakes in the answers, but has the necessary knowledge to overcome the mistakes made under the guidance of a tutor
"2"	The HE student does not acquire knowledge of program material, makes fundamental mistakes in the assignments provided by the program

Credit is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes and has an average current grade of at least 3.0 and has no academic debt.

Assessment is carried out: at the class before the beginning of the examination session. The credit score is the arithmetic mean of all components according to the traditional four-point scale and has a value that is rounded according to the statistics method with two decimal places after the decimal point.

9. Distribution of points, obtained by the student

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Table of Converting the Traditional Grades into the Multi-Point Grading Scale

National Grade	200-Point Grading Scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is given to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Converting the Traditional Grade and the Sum of Points on the ECTS Scale

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% students
B	The next 25% students
C	The next 30% students
D	The next 25% students
E	The next 10% students

10. Methodological Support

- Working program of the discipline
- Syllabus
- Guidelines for practical classes
- Guidelines for independent student work

11. Recommended literature

Required:

1. Pharmaceutical Economics and Policy. PERSPECTIVES, PROMISES, AND PROBLEMS. Third Edition Stuart O. Schweitzer and Z. John Lu
2. Principles of Managerial Economics/ The open university of Hong Kong. 106 p.
3. Principles of Microeconomics: an Open Text by Douglas Curtis and Ian Irvine Base. Text Revision History. Current Revision: Version 2020 - Revision A. URL: https://laecon1.lyryx.com/textbooks/CURTIS_PRIN_MIC_1/marketing/CI-Principles-of-Microeconomics-2020A.pdf
4. Principles of Macroeconomics: an Open Text by Douglas Curtis and Ian Irvine Base. Text Revision History. Current Revision: Version 2020 - Revision A. URL: https://laecon1.lyryx.com/textbooks/CURTIS_PRIN_MAC_1/marketing/CI-Principles-of-Macroeconomics-2020A.pdf
5. Consumer Behaviour. Jane Priest, Stephen Carter, David A. Statt

Additional:

1. Borshch V.I. Health economics: methodological recommendations for the students. Odessa national medical university. Odessa: printing South, 2018. 128 p.
2. Economic and Business Management/ Edited by Xiaoxia Huang, Feng Zhang. China, 2022. 58 p.
3. Van Horne, James C. Fundamentals of financial management / James C. Van Horne, John M. Wachowicz. 13th ed., 2018. 719 p.

13. Electronic Information Resources

1. Business management and organization/ Global innovative leadership module. URL: <https://ec.europa.eu/programmes/erasmus-plus/project-result-content/9a1c8bee-11f3-48f0-8e25-c86b14cf445a/Business%20Management%20And%20Organization%20Booklet.pdf>
2. Economics for pharmaceutical management. URL: <https://msh.org/wp-content/uploads/2013/04/mds3-ch10-pharmoeconomics-mar2012.pdf>
3. Prokopova O. Management reporting of pharmaceutical enterprises. SCIENTIA FRUCTUOSA. 2023. 112-120. 10.31617/1.2023(149)09. URL: https://www.researchgate.net/publication/371828257_Management_reporting_of_pharmaceutical_enterprises
4. State Employment Service: website. URL: <http://www.dcz.gov.ua/>
5. State Statistics Service of Ukraine: website. URL: <http://www.ukrstat.gov.ua/>
6. Economy of Ukraine: website. URL: <http://www.economukraine.com.ua/>
7. Economy of Ukraine (political and economic journal): website. URL: https://journals.ua/business/ekonomka_ukraini/
8. Electronic journal "Effective Economy" URL: <http://www.economy.nayka.com.ua>
9. Normative-directive documents of the Ministry of Health of Ukraine: website. URL: [http:// mozdocs.kiev.ua](http://mozdocs.kiev.ua)
10. Pharmacy weekly: website. URL: <https://www.apteka.ua/>
11. Health economics. URL: <https://www.healtheconomics.com/>