



The syllabus of the discipline
"Industrial practice in the organization and economics of pharmacy"

1. General information	
The name of the faculty	pharmaceutical
Educational program (branch, specialty, level of higher education, form of education)	22 Healthcare, 226 Pharmacy, industrial pharmacy, second (master's) level of higher education, full-time
Academic year	2023 - 2024
Name of discipline, code (e-mail address on the website of Danylo Halytsky LNMU)	WB 2.3. Industrial practice in the OEF
Department (name, address, phone, e-mail)	Organization and Economics of Pharmacy, Lviv, Pekarska str. 69 (032) 2768639 Kaf_organisationpharm@meduniv.lviv.ua
Head of the department (contact e-mail)	Head of the Department, Doctor of Pharmacy, Professor Hromovyk B.P.
Year of study (year in which the study of the discipline)	5
Semester (semester in which the study of the discipline is implemented)	10
Type of course / module (obligatory / optional)	selective
Teachers (names, surnames, scientific degrees and titles of teachers who teach the discipline, contact e-mail)	Dorykevych Kateryna, PhD of Pharmaceutical Sciences, Associate Professor, kpushak@gmail.com
Erasmus yes / no (availability of the discipline for students within the Erasmus + program)	-
Person responsible for the syllabus (person to be commented)	Kornienko O.M. lesyakorn@ukr.net

<i>on the syllabus, contact e-mail)</i>		
Number of ECTS credits	5	
Number of hours	Total: 150, incl. practical classes – 90 hours, independent student's work – 60 hours.	
Language of teaching	Ukrainian, English	
Information about consultations	According to the schedule of the department	
Address, telephone and regulations of the clinical base, office ... <i>(if necessary)</i>		
2. Short annotation to the course		
<p>Industrial practice in the organization and economics of pharmacy as a discipline studies the requirements of current state regulations on the activities of pharmacies for the organization of pharmaceutical supply of the population and health care facilities with drugs and pharmaceutical products, as well as the basic principles of primary accounting, financial reporting and economic analysis of the pharmacies along.</p>		
3. The purpose and objectives of the course		
<p>1. The purpose of teaching the discipline "Industrial practice in the organization and economics of pharmacy" is to consolidate and deepen theoretical knowledge and acquire practical skills in the main aspects of organizational, production, administrative and financial activities of pharmacies; mastering modern principles of pharmaceutical business, pharmaceutical ethics and deontology.</p> <p>2. The main tasks of studying the discipline "Industrial practice in the organization and economics of pharmacy" are to generalize the requirements of regulatory documents governing the activities of the pharmacy in accordance with the requirements of good pharmacy practice and licensing conditions; study of the pharmacy supply system; range of in-pharmacy blanks and their accounting; implementation of prescriptions, their accounting, registration of drugs for vacation, communication with visitors to the pharmacy using the principles of pharmaceutical care; carrying out all types of in-pharmacy quality control of dosage forms of individual production, as well as incoming quality control of finished drugs; acquaintance with features of the account of medicines with the maintenance of the controlled substances; monitoring of the main economic indicators of the pharmacy.</p>		
4. Prerequisites of the course		
<p>Industrial practice in the organization and economics of pharmacy is based on the study by students of the organizational principles of pharmaceutical support in the health care system, an important part of the structure of the discipline is the acquisition of economic knowledge. It integrates with other disciplines such as history of pharmacy, social pharmacy, drug technology, pharmaceutical chemistry, information technology in pharmacy, pharmaceutical law, management and marketing in pharmacy, medical and pharmaceutical commodity science, pharmacoeconomics.</p>		
5. Program learning outcomes		
List of learning outcomes		
Learning outcome code	The content of the learning outcome	Link to the competency matrix code <i>(PLO – practical learning outcomes)</i>

Kn-1	Know your social and community rights and responsibilities	PLO 1, PLO 5
Kn-2	Know the methods of implementing knowledge in solving practical problems	PLO 2, PLO 20, PLO 24
Kn-3	Know the current trends in the pharmaceutical market, analyze them and offer innovative ways of development	PLO 9, PLO 20, PLO 21, PLO 24
Kn-4	Know the structure and features of professional activity.	PLO 2, PLO 20, PLO 21, PLO 24
Kn-5	Have a perfect knowledge of the native language and basic knowledge foreign language	PLO 8
Kn-6	Know the tactics and strategies of communication, laws and ways of communicative behaviour.	PLO 2, PLO 6, PLO 9, PLO 10
Kn-7	Know the main provisions of current legislation governing the activities of pharmacies to organize the supply, storage and supply to the population and health care facilities of medicines and other groups of products of the pharmacy range	PLO 2, PLO 9, PLO 14, PLO 19, PLO 20
Kn-8	Know the basic provisions of the current legislation governing commodity analysis, administrative paperwork, primary accounting and management systems, statistical, accounting and finance first reporting in pharmacies	PLO 2, PLO 19, PLO 20, PLO 24
Kn-9	Know the main provisions of current tax legislation, the principle of calculation, analysis and forecasting of key indicators of trade and financial activities of pharmacies, features of pricing of medicines and pharmaceutical products, taking into account government regulation and market mechanisms of price formation	PLO 2, PLO 9, PLO 11, PLO 12, PLO 20, PLO 21, PLO 24
S-1	To form one's civic consciousness, to be able to act in accordance with it	PLO 1, PLO 5
S-2	Be able to use professional knowledge to solve in practical situations	PLO 2, PLO 6, PLO 19, PLO 20, PLO 21, PLO 24
S-3	Be able to analyse professional information, make informed decisions, acquire modern knowledge	PLO 2, PLO 6, PLO 9, PLO 12, PLO 24
S-4	Be able to carry out professional activities that require updating and integration of knowledge	PLO 7, PLO 9, PLO 12, PLO 20, PLO 24
S-5	Be able to apply knowledge of the native language, both orally and in writing, be able to communicate in a foreign language	PLO 8
S-6	Be able to choose ways and strategies of communication to ensure effective teamwork	PLO 6, PLO 10
S-7	Ability to form the product range and organize its release from pharmacies in accordance with the requirements of the National Medical Policy, Good Pharmacy Practice and other organizational and legal forms of pharmaceutical legislation.	PLO 2, PLO 14, PLO 20, PLO 24
S-8	The ability to conduct commodity analysis, conduct administrative paperwork, fill the original document and forms	PLO 2, PLO 19, PLO 20, PLO 24

	of finance, organize the management of the system, statistical and recordkeeping in accordance with applicable regulatory and legal acts.	
S-9	Ability to determine, analyse and forecast the main economic indicators of pharmacies, calculate mandatory taxes and fees, set prices for medicines and pharmaceutical products in accordance with current legislation	PLO 2, PLO 11, PLO 12, PLO 21, PLO 24
C-1	The ability to convey their public and social position	PLO 1, PLO 5
C-2	Establish links with practical subjects activities	PLO 2, PLO 10, PLO 20, PLO 24
C-3	Establish appropriate connections to achieve goals	PLO 9, PLO 10, PLO 12, PLO 20
C-4	To form a communication strategy in professional activity.	PLO 6, PLO 10, PLO 12, PLO 20, PLO 24
C-5	Use in professional and business communication and preparation of native documents language. Use a foreign language in professional activities	PLO 8
C-6	Use communication strategies and interpersonal skills	PLO 6, PLO 9, PLO 10, PLO 20
C-7	Establish links with pharmaceutical market players	PLO 2, PLO 10, PLO 20, PLO 24
AB-1	Be responsible for your civic position and activities	PLO 1, PLO 5, PLO 6, PLO 24
AB-2	Be responsible for timeliness decisions made	PLO 2, PLO 6, PLO 7, PLO 9, PLO 20, PLO 21, PLO 24
AB-3	Be responsible for the timely acquisition of modern knowledge.	PLO 6, PLO 7, PLO 9, PLO 12, PLO 20, PLO 21, PLO 24
AB-4	Be responsible for the professional development with a high level of autonomy	PLO 6, PLO 7, PLO 9, PLO 20, PLO 21, PLO 24
AB-5	To be responsible for fluency in the native language, for the development of professional knowledge	PLO 8
AB-6	Be responsible for the choice and tactics of communication	PLO 6, PLO 9, PLO 10, PLO 14, PLO 20, PLO 24
AB-7	To be responsible for the timely provision of the population and health care facilities with medicines and pharmaceutical products of proper quality	PLO 2, PLO 9, PLO 11, PLO 14, PLO 19, PLO 20, PLO 24
6. Format and scope of the course		
Course format	Full-time education	

Kind of occupations	Number of hours	Number of groups
Lectures (L)	-	-
Practical classes (PC)	90	5
Seminars (S)	-	-
Independent student's work (ISW)	60	5

7. Topics and content of the course

Occupations type code	Topic	Learning content	Learning outcome code	Teacher
PC-1 ISW 1	General acquaintance with the work of the pharmacy: mode of operation, availability of permits, organizational structure of the pharmacy (availability of departments and structural units), production and non-production facilities of the pharmacy, their characteristics and equipment.	Generalization of information about the basic pharmacy (organizational structure of the pharmacy, the presence of structural units, permits). Acquaintance with the premises of the pharmacy and their equipment. Instruction on labor protection in the pharmacy.	PLO 2. PLO 9. PLO 12. PLO 20. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC - 2 ISW - 2	Pharmacy staff, material responsibility of pharmacy employees, observance of sanitary regime and requirements for personal hygiene of employees.	Qualification requirements for pharmacy staff. Liability in the pharmacy. Compliance with the requirements of the sanitary regime for cleaning, care for equipment and personal hygiene of pharmacy staff.	PLO 2. PLO 10. PLO 19. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -3 ISW -3	Study of the pharmacy supply system. Replenishment of goods. Carrying	In determining the current need for drugs and other products of the pharmacy range, the organization of their order and reception. The quality control of medicinal drugs, the duties	PLO 2. PLO 9. PLO 12. PLO 19. PLO 20.	Horodetska I.Ya. Hrushkovska D.T. Kornienko

	out incoming quality control of medicines by an authorized person of a pharmacy.	of the authorized person.	PLO 24.	O.M. Khanyk N.L. Chukhrai I.L.
PC -4 ISW -4	Pricing for medicines and pharmaceutical products. Organization of storage of various groups of drugs and pharmaceutical products	Principles of state and market approaches to drug pricing and pharmaceutical products. The procedure for determining the wholesale-dispensing, purchasing and retail prices for ready-made drugs and pharmaceutical products, including value added tax. Storage of medicines and pharmaceutical products in pharmacies.	PLO 2. PLO 9. PLO 12. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -5 ISW -5	Organization of pharmacy work with visitors. Receiving prescriptions and dispensing medicines.	Rules of writing prescriptions, prescription forms, electronic prescription. Algorithm of actions of the pharmacist at reception of prescriptions, term of validity of the written prescriptions and their storage in pharmacies.	PLO 2. PLO 9. PLO 12. PLO 20. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -6 ISW -6	Receiving prescriptions and dispensing medicines containing controlled substances, discounted and free prescriptions.	Standardization and accounting of the release of narcotic, psychotropic drugs and precursors from pharmacies. Features of circulation of combined medicines with the content of controlled substances, rationing of their release. Organization of prescribing and dispensing of medicines on free and preferential terms, as well as to chronic patients. The order of registration and accounting of free and discounted prescriptions depending on the category of patients and diseases.	PLO 1 PLO 2. PLO 9. PLO 12. PLO 20. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -7 ISW -7	Over-the-counter dispensing of medicines and related pharmacy products based on the principles of pharmaceutical care.	The main sources of information and criteria for classifying drugs as over-the-counter. Rights and responsibilities of a pharmacist for dispensing over-the-counter drugs, pharmaceutical care. Principles of placement of over-the-counter drugs in the trading hall of the pharmacy.	PLO 2. PLO 6. PLO 8. PLO 9. PLO 10. PLO 12. PLO 14. PLO 20. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -8 ISW -8	In-pharmacy quality control in accordance with the requirements of good pharmacy practice.	Legislation, organizational structure, levels of government of the state quality control system in Ukraine. Organization of internal pharmacy control of medicines quality according to the requirements of good pharmacy	PLO 2. PLO 9. PLO 19. PLO 20. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M.

		practice.		Khanyk N.L. Chukhrai I.L.
PC -9 ISW -9	Documenting settlements with visitors at the operating room of the pharmacy.	Cash book. Accounting for settlement transactions.	PLO 2. PLO 9. PLO 20 PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -10 ISW -10	Accounting and reporting in the pharmacy. Accounting for commodity and settlement transactions. Inventory of inventory of pharmacies.	Business transactions that require constant accounting, their reflection in the primary and cumulative documents. Registration of production operations in the pharmacy, the balances of inventory at the end of the reporting period, determine the amount and average interest margin trading sales, cost of goods sold and the amount of VAT payable to the budget. Documenting the results of the inventory, calculation of the natural loss of goods, its use and write-off.	PLO 2. PLO 9. PLO 11. PLO 12. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -11 ISW -11	Carrying out calculations on labor accounting and salaries of pharmacy employees.	In the formation of salaries to administrative and production staff of pharmacies, surcharges to salaries of employees. Compulsory deductions from wages, especially the calculation of income tax of individuals on the basis of the tax benefits. Accrual of salaries of pharmacy employees to the salary fund.	PLO 2. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -12 ISW -12	Accounting for income, expenses and financial results of the pharmacy.	Establishing the financial result of the reporting period (profit or loss from financial and economic activities) of the pharmacy, accounting for the financial result, establishing the amount of retained earnings (loss).	PLO 2. PLO 11. PLO 12. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -13 ISW -13	Analysis of indicators of the financial condition of the pharmacy. Comparative analysis of key economic indicators.	Accounting forms of external financial reporting. Types of financial stability of pharmacies, methods of their evaluation. Express analysis of key performance indicators, the "Golden Rule" of the economy.	PLO 2. PLO 11. PLO 12. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC -14 ISW -14	Analysis of solvency and lending conditions	Characteristics of indicators of solvency, liquidity and profitability of pharmacies. The principle of the	PLO 2. PLO 11. PLO 12.	Horodetska I.Ya. Hrushkovska

	of pharmacies.	necessary dynamism of functioning capital.	PLO 20. PLO 21. PLO 24.	D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.
PC - 15 ISW - 1 5	Registration of results of industrial practice. Differentiated credit.	Registration of results of industrial practice. Preparation of a documentary report.	PLO 2. PLO 6. PLO 11. PLO 12. PLO 19. PLO 20. PLO 21. PLO 24.	Horodetska I.Ya. Hrushkovska D.T. Kornienko O.M. Khanyk N.L. Chukhrai I.L.

It is necessary to present a system of organization of classes, the use of interactive methods, educational technologies used to transfer and assimilate knowledge, skills and abilities.

8. Verification of learning outcomes

Current control

Learning outcome code	Code type of classes	Method of verifying learning outcomes	Enrolment criteria
Kn -1-9 S-1-9 C 1-7 AB 1-7	PC 1-15 ISW 1-5	Current control is carried out daily, in accordance with the specific objectives of each topic, by the immediate supervisor from the practice base, who approves the implementation of practical skills in the student's practice diary. In the process of monitoring the acquisition of practical skills, students are recommended to use the following tools for diagnosing the level of training: performing practical tasks, modelling situations, conducting research, explaining and evaluating their results. During the assessment of mastering each topic for the current educational activity of the student grades are given on a 4-point (national). This takes into account all types of work provided by the discipline program. The student must receive a grade from each topic for further conversion of grades into points on a multi-point (200-point) scale.	"5" (5 points) – the student closely connects the theory with practice and correctly demonstrates the implementation of practical skills, the tasks provided by the program are completed, filled out all the accompanying forms (documents), all necessary calculations, registration in the relevant journals, the registration of business operations carried out in the pharmacy was carried out. "4" (4 points) – the student demonstrates the implementation of practical skills, performed all tasks provided by the program of practice, assuming minor errors; all types of work, production operations and tasks provided by the program of practice are performed well, but minor errors are made in the calculation or design of results. "3" - (3 points) – the student during the demonstration of practical peacocks makes significant mistakes, performs only the easiest tasks, has only a mandatory minimum of research methods, production operations and tasks provided by the program of practice, not fully performed, errors in calculations and registration of results, the wrong algorithm of the decision is applied. "2" (0 points) - the student during the demonstration of practical skills makes significant, gross mistakes; did not fulfil the tasks provided by the practice program; types of work, production operations and tasks provided by the program of practice, not performed or performed with unacceptable errors, types of work performed are not fully or not recorded in the diary or the student has no practice diary.

Final control

General evaluation system	Participation in the work during the internship / differential test - 60% / 40% on a 200-point scale
Rating scales	traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale

Conditions of admission to the final control	The student attended all practical classes and received at least 72 points for current performance	
<p>The maximum number of points that a student can score for the current academic activity for admission to the differentiated test is 120 points.</p> <p>The minimum number of points that a student must score for the current academic activity for admission to the differentiated test is 72 points.</p>		
Type of final control	Methods of final control	Enrolment criteria
Criteria for assessing differentiated credit		
Differentiated offset	Differential credit for industrial practice in the organization and economics of pharmacy is carried out by test control, which provides 80 individual test tasks with one correct answer from the base of the licensed integrated exam "Step 2. Pharmacy"	The correct answer to the test task is evaluated in one point; the minimum number of points for enrolment is 50.
9. Course policy		
<p>Every higher education applicant should get acquainted and follow:</p> <ul style="list-style-type: none"> - Code of Academic Ethics of Danylo Halytsky Lviv National Medical University (http://nauka.meduniv.lviv.ua/wp-content/uploads/2020/04/kodeks-akademichnoyi-etiki.pdf) and Guidelines for Supporting the Principles of Academic Integrity (https://new.meduniv.lviv.ua/uploads/repository/else/quality_dept/07.Academic_goodness/01.Methodical_recommendations.pdf); - Charter (https://new.meduniv.lviv.ua/uploads/repository/dept/law_dept/01.Statut_statut_2018.pdf) and the Rules of an internal labor regulations (https://new.meduniv.lviv.ua/uploads/repository/dept/human_resources_dept/02 . - Strategies and procedures for quality assurance (https://new.meduniv.lviv.ua/uploads/repository/else/quality_dept/01.Stratehiya%2C%20polityka_ta%20protседury_zabezpechennya_yakosti_osvity/01.Stratehiya_ta_protседury_zabezpechennya_yakosti_osvity.pdf), Regulations on the organization of educational process (https://new.meduniv.lviv.ua/uploads/repository/dept/nv_dept/09.Dokumenty_z_orhanizatsiyi_osvitnoho_protseesu/01.Polozhennya_pro_orhanizatsiyu_osvitnoho_protseesu_LNMU.pdf) and on the criteria, rules and procedure to assess the results of training activities (https://new.meduniv.lviv.ua/uploads/repository/dept/nv_dept/09 . <p>For successful mastering of the course the applicant of higher education is obliged:</p> <ul style="list-style-type: none"> - to take an active part in the educational process, in particular to properly study the educational material on each topic; - not to miss lectures and practical classes without a good reason, and in case of illness to provide information; - do not be late for class; - timely work off missed classes; - prepare for practical classes and maintain feedback during them; - timely and accurately perform tasks for ISW; - turn off your mobile phone during lectures and practical classes; - to take proper part in control measures (current control, ISW control, final control), during which hints and write-offs are inadmissible. <p>Any copying or reproduction of the results of someone else's work, unless the work has a group format, the use of materials downloaded from the Internet qualifies as a violation of the rules and regulations of academic integrity and involves bringing the perpetrator to justice under applicable regulations. Failure to comply with and / or non-compliance with the course policy may result in a grade of "unsatisfactory".</p>		

10. Literature

Required

1. Організація та економіка фармації. Ч. 1. Організація фармацевтичного забезпечення населення : Національний підруч. для ВНЗ / А. С. Немченко, В. М. Назаркіна, Г. Л. Панфілова та ін. ; за ред. А.С. Немченко. — Харків : НФаУ : Золоті сторінки, 2015. — 360 с. — (Національний підручник).
2. Організація та економіка фармації : національний підручник для студентів фармацевтичних факультетів вищих навчальних закладів МОЗ України / А. С. Немченко [та ін.] ; за ред. А. С. Немченко ; Нац. фармац. ун-т. - Харків : НФаУ: Золоті сторінки, 2017 - . - (Національний підручник). Ч. 3 : Основи економіки фармації. - 2017. - 271 с.
3. Громовик Б.П., Терещук С.І., Чухрай І.Л. Організація та економіка фармації / За ред. проф. Б.П.Громовика та доц. С.І.Терещук. – Вінниця, Нова книга, 2009. – 816 с.
4. Державний реєстр лікарських засобів України [Електронний ресурс]. – Режим доступу: <http://www.drlz.com.ua/>.
5. Законодавство України [Електронний ресурс]. - Режим доступу: <http://zakon3.rada.gov.ua/laws>
6. Компендиум OnLine [Електронний ресурс]. – Режим доступу: <http://compendium.com.ua/>
7. Нормативно-директивні документи МОЗ України [Електронний ресурс]. - Режим доступу: / [http:// mozdocs.kiev.ua](http://mozdocs.kiev.ua)

Additional

1. Немченко А.С. Основи економіки та системи обліку у фармації: навч. посіб. для студ. вищ. навч. закл. / А.С. Немченко, Г.Л. Панфілова. В.М. Чернуха та ін.; за ред. А.С. Немченко - Харків: Вид-во НфаУ: Золоті сторінки, 2005. - 504 с.
2. Практикум з організації та економіки фармації. Навч. посібник для студентів вищих навч.закл. /Б.П.Громовик, С.І.Терещук, О.Л.Гром, А.М.Новікевич, І.Л.Чухрай. – Вінниця:Нова книга, 2004. – 448 с.

11. Equipment, logistics and software of the discipline / course

Working curriculum for the discipline.

Multimedia support of lectures.

Abstracts of lectures on the discipline.

Methodical recommendations for practical classes of higher education students.

Methodical materials that provide independent work for graduates.

Test and control tasks for practical classes.

Questions and tasks for the final control.

MISA training platform.

Online system of continuing pharmaceutical education AdFarm SA

Computer class for 16 workstations connected to the local network of the university with direct access to the Internet.

12. Additional information

Responsible for the educational process at the department - Associate Professor I.Ya. Horodetska. Scientific students' research group works at the department. Practical classes are held at Pekarska st., 75. *Website of the department:* <https://new.meduniv.lviv.ua/kafedry/kafedra-organizatsiyi-i-ekonomiky-farmatsiyi/>

Compiler of syllabus Kornienko O.M.,
Candidate of Pharmacy, Associate Professor (Signature)

Head of the department Hromovyk B.P.,
Doctor of Pharmacy, Professor (Signature)