



## SYLLABUS ON THE DISCIPLINE “PRODUCTION PRACTICAL TRAINING IN CLINICAL PHARMACY”

<b>1. General information</b>	
<b>Faculty</b>	Faculty of Pharmacy
<b>Study program</b> (branch of study, specialty, degree, form of study)	22 Healthcare, 226 Pharmacy, industrial pharmacy, the second (master's) degree of the Higher Education Standard, full time
Academic year	2023-2024
<b>Subject, code</b> ( <i>URL directory on the website of Danylo Halytsky Lviv National Medical University</i> )	Production practical training in clinical pharmacy, code EM 2.6 <a href="http://new.meduniv.lviv.ua/">http://new.meduniv.lviv.ua/</a>
Department ( <i>name, address, phone number, e-mail</i> )	Department of Healthcare Management, Pharmacotherapy and Clinical Pharmacy, 69 Pekarska str., Lviv, 79010, Ukraine, phone. +38 (032)2587410, phone/fax: +38(032)2944748, 11 Mykolaichuk str., Lviv, 79059, Ukraine, e-mail: kaf_clinicalpharm@meduniv.lviv.ua
Head of the Department ( <i>contact e-mail</i> )	Zimenkovsky Andriy Borysovyh, Doctor of Science, Professor, Honored Science and Technics Leader of Ukraine azimenkovsky@ukr.net
Year of study ( <i>discipline study</i> )	V
Semester ( <i>discipline study</i> )	10
Type of course/module ( <i>compulsory/optional</i> )	Optional
Professors	Lopatynska O.I., PhD, associate professor, Oksana.lo@gmail.com Nastyukha Yu.S., PhD, associate professor, y.nastyukha@gmail.com
Erasmus Yes/No	No
The person responsible for the syllabus	Sekh M.Ya., PhD, assistant professor, pidgirna2016@ukr.net Nastyukha Yu.S., PhD, associate professor, y.nastyukha@gmail.com
ECTS credits	1 credit
Number of hours	0/15/15 hours
Language of study	English
Information about consultations	Consultations take place on the approved schedule, both offline (face-to-face) and online, using available for students and teachers information and communication technologies

Address, telephone and regulations of the clinical base, office	Clinical Emergency Hospital 9 Mykolaichuk str., Lviv, 79010, Ukraine (032) 258-70-22
<b>2. Short annotation to the course</b>	
<p>Under current conditions, professional skills of pharmacists consist of not only drug manufacturing and drug quality control, providing the population and healthcare establishments with medications and medical products, but patient-directed activity that is provided with the help of pharmaceutical care.</p> <p>Theoretical knowledge and practical skills that help the pharmacist to provide patients with professional pharmaceutical care are gained by students during studying a number of medical and biological disciplines and consolidated while learning clinical pharmacy. Teaching of this discipline implies explanation of theoretical basics and practical approach to rational drug administration that is based on combination of pharmaceutical and clinical aspects of appropriate medication intake. Studying of clinical pharmacy by the students is continued during practical training that helps to deepen the gained knowledge and improve practical skills.</p> <p>Fulfillment of syllabus for the practical training in clinical pharmacy provides acquirement of professional experience by the students. Practical tasks include providing patients with pharmaceutical care directed on different categories of patients, particularly those who require special attention (pregnant, lactating women, children of different age groups, elderly etc.) and involve prevention, detection and solution of drug-related problems, especially drug-drug interactions, inappropriate dosage of drugs or pharmacotherapy duration etc.</p> <p>Thereby multifaceted approach of the practical training in clinical pharmacy gets the student prepared to reality of future professional activity.</p>	
<b>3. The aim and objectives of the educational discipline</b>	
<p><b>The aim</b> of the <i>production practical training in Clinical pharmacy</i> is as follows: consolidation of the theoretical knowledge in clinical pharmacy and improvement of practical skills in providing pharmaceutical care.</p> <p><b>Main tasks</b> of the practical training in Clinical pharmacy are as follows:</p> <ul style="list-style-type: none"> <li>– mastering the principles and gaining skills of pharmaceutical care providing for the purpose of efficacy and safety of pharmacotherapy enhancement;</li> <li>– gaining skills in search, analysis and presentation of information about drugs i.e., the implementation of information and consulting about drugs among healthcare professionals and different population groups;</li> <li>– mastering of medical deontology principles and codes of conduct of a pharmacist, in particular in relationships with doctors, pharmacists and clinical pharmacists, patients;</li> <li>– adoption of skills in pharmacotherapy assessment;</li> <li>– acquaintance with medical documentation about drugs.</li> </ul> <p>According to the requirements of the educational program discipline, “Production practical training in Clinical pharmacy” promotes <b>competences</b> acquisition by students as follows:</p> <p>- <b>Integral:</b> The ability to apply the acquired general and professional competences to solve complex problems in professional pharmaceutical activities, including those of a research and innovation nature; providing professional activities in the relevant position, including the manufacture/development of drugs, their storage, quality control, delivery, distribution, dispensing, and supply of drugs, as well as consulting, providing information on drugs, and monitoring adverse drug reactions and/or ineffectiveness of drug therapy; realization of innovation.</p> <p><b>general:</b></p> <p>GC-01. The ability to abstract thinking, analysis, and synthesis.</p> <p>GC-02. The knowledge and understanding of the subject area; understanding of professional activity.</p> <p>GC-03. The ability to communicate in the national language both orally and in writing.</p> <p>GC-04. The ability to communicate in a foreign language (mainly English) at a level that ensures</p>	

- effective professional activity.
- GC-05. The ability to assess and ensure the quality of work.
- GC-06. The ability to work in a team.
- GC-08. The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society, and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle.
- GC-09. Skills in the use of information and communication technologies.
- special (professional, substantive):***
- SC-01. The ability to integrate knowledge and solve complex pharmacy/industrial pharmacy problems in broad or multidisciplinary contexts.
- SC-03. The 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-04. 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.
- SC-05. The ability to demonstrate and apply communication skills and fundamental principles of pharmaceutical ethics and deontology in practical activities.
- SC-07. The ability to conduct sanitary and educational work among the population to prevent common diseases, to prevent dangerous infectious, viruses and parasitic diseases, as well as to promote the timely determination and maintenance of adherence to the treatment of these disease according to their medical-and-biological properties.
- SC-08. The ability to provide counseling concerning OTC and prescription medications and others pharmaceutical products; to provide pharmaceutical care when selecting and dispensing OTC medications by assessing the risk/benefit, compatibility, taking into account the biopharmaceutical, pharmacokinetic, pharmacodynamic and physicochemical characteristics of the medications, indications, and contraindications based on the patient's health status.
- SC-09. The ability to provide first aid for patients and victims in extreme situations and emergencies.
- SC-10. The ability to monitor the effectiveness and safety of the drug use based on their clinical and pharmaceutical characteristics.
- SC-15. The ability to analyze the socio-economic processes in pharmacy, forms, methods and functions of the pharmaceutical supply system and its components in the world practice, indicators of need, efficiency and availability of pharmaceutical aid in terms of health insurance and reimbursement of the drugs.

#### 4. Pre-details of the course

The study of the educational discipline “Production practical training in clinical pharmacy” is based on the following subjects: “Anatomy”, “Physiology”, “Biology with the basics of genetics”, “Information Technologies in Pharmacy”, “Microbiology with the basics of immunology”, “Ethics and Deontology in Pharmacy”, “Pathological Physiology”, “Pharmacology”, “Pharmacotherapy with Pharmacokinetics”, “Drug Technology”, “Organization and Economics in Pharmacy”. “Fundamentals of medical standardization and evidence-based medicine”

#### 5. Program learning outcomes

##### List of learning outcomes

Learning outcome code	The content of the learning outcome	Reference to the code of the competence matrix
<i>Kn – knowledge, Sk – skills, C – communication, R – responsibility, PR – Program learning outcomes (results)</i>		
<i>Kn-1</i>	Know your social and civil rights and responsibilities.	<i>PR1, PR2</i>

<i>Kn-2</i>	Know the methods of implementing knowledge in solving practical issues	<i>PR1, PR2, PR6, PR8, PR9, PR10,</i>
<i>Kn-3</i>	Know the peculiarities of the modern professional environment and professional activity	<i>PR1, PR2, PR3, PR4, PR6, PR8, PR9,</i>
<i>Kn-4</i>	Know the structure and features of professional activity	<i>PR1, PR3, PR6, PR8, PR10,</i>
<i>Kn-5</i>	Know the mechanisms of adaptation and algorithms of actions in a new situation	<i>PR3, PR4, PR6, PR8, PR9,</i>
<i>Kn-6</i>	Know modern information and communication technologies	<i>PR1, PR4, PR8, PR9, PR10,</i>
<i>Kn-7</i>	Know the methods of evaluating activity quality indicators	<i>PR2, PR3, PR5, PR6, PR8,</i>
<i>Kn-8</i>	Know modern methods of scientific research	<i>PR2, PR8,</i>
<i>Kn-9</i>	Know the organizational and methodological principles of the organization and activity of the clinical and pharmaceutical service in health care facilities, in particular pharmacies, in Ukraine, the principles of clinical pharmacist activity in the inpatient health care facilities and pharmacies, and the basics of medical ethics and deontology	<i>PR2, PR3, PR5, PR6, PR24, PR27</i>
<i>Kn-10</i>	Know the main drugs' pharmacokinetic and pharmacodynamic features, the main indications, and contraindications of the main groups of drugs, dangerous adverse drug reactions	<i>PR2, PR3, PR5, PR6, PR8, PR10, PR11, PR24,</i>
<i>Kn-11</i>	The ability to provide pre-medical care to the sick and injured in extreme situations	<i>PR2, PR3, PR6, PR12,</i>
<i>Kn-12</i>	Know the principles of evidence-based medicine; classification of drug-related problems, identification methodology, principles of their solution, prevention	<i>PR2, PR3, PR5, PR6, PR8, PR11, PR13, PR24,</i>
<i>Kn-13</i>	Know the main indicators of the effectiveness of drugs, criteria of effectiveness and safety of drugs and their sources	<i>PR3, PR5, PR8, PR11, PR13, PR24, PR27</i>
<i>Kn-14</i>	Know the basic needs for drugs and determine the availability of pharmaceutical care in terms of medical insurance and reimbursement, reimbursement mechanisms	<i>PR3, PR5, PR6, PR24, PR27</i>
<i>Kn-15</i>	Know the regulatory and legislative framework of Ukraine, the complex of good pharmaceutical practices that regulate the requirements for professional activity	<i>PR2, PR3, PR4, PR6, PR8, PR10, PR26, PR27</i>
<i>Sk-1</i>	Form civic consciousness, to be able to act in accordance with it	<i>PR1, PR2,</i>
<i>Sk-2</i>	Be able to use professional knowledge to solve practical situations	<i>PR1, PR2, PR6, PR8, PR9, PR10,</i>
<i>Sk-3</i>	Be able to analyze information, make informed decisions, be able to acquire modern knowledge	<i>PR1, PR2, PR3, PR4, PR6, PR8, PR9,</i>
<i>Sk-4</i>	Be able to carry out professional activities that require updating and integration of knowledge	<i>PR1, PR3, PR6, PR8, PR10,</i>
<i>Sk-5</i>	Be able to adapt to new and act in accordance with specific situations	<i>PR3, PR4, PR6, PR8, PR9,</i>

<i>Sk-6</i>	Be able to apply modern information and communication technologies in practical activities	<i>PR1, PR4, PR8, PR9, PR10,</i>
<i>Sk-7</i>	Be able to ensure the quality realization of professional work	<i>PR2, PR3, PR5, PR6, PR8,</i>
<i>Sk-8</i>	Be able to apply modern methods of scientific research	<i>PR2, PR8,</i>
<i>Sk-9</i>	Use the understanding of the history and regularities of the development of clinical medicine in practical activities	<i>PR2, PR3, PR5, PR6, PR24, PR27</i>
<i>Sk-10</i>	Search and analyze reliable data on the rational use of drugs; organize cooperation with other participants in the medication process; determine and evaluate the components of the patient's medication behavior and apply means of influence on them	<i>PR2, PR3, PR5, PR6, PR8, PR10, PR11, PR24,</i>
<i>Sk-11</i>	Provide pharmaceutical care while dispensing drugs, taking into account the individual characteristics of patients, compatibility, indications, and contraindications	<i>PR2, PR3, PR6, PR12,</i>
<i>Sk-12</i>	Identify the signs of diseases and pathological conditions that obligatory require intervention by a doctor, which cannot be removed at the stage of pre-medical care in the conditions of a pharmacy or production facility, and take the necessary measures	<i>PR2, PR3, PR5, PR6, PR8, PR11, PR13, PR24,</i>
<i>Sk-13</i>	Search and analyze reliable data on the rational use of drugs, identify, solve and prevent drug-related problems	<i>PR3, PR5, PR8, PR11, PR13, PR24, PR27</i>
<i>Sk-14</i>	Be able to determine the advantages and disadvantages of the functioning of the reimbursement system in Ukraine, to work with normative documents regulating reimbursement in Ukraine	<i>PR3, PR5, PR6, PR24, PR27</i>
<i>Sk-15</i>	Be able to apply knowledge of regulatory and legislative acts of Ukraine and recommendations of good pharmaceutical practices in practical activities	<i>PR2, PR3, PR4, PR6, PR8, PR10, PR26, PR27</i>
<i>C-1</i>	The ability to convey public and social position	<i>PR1, PR2,</i>
<i>C-2</i>	Establish connections with subjects of practical activity	<i>PR1, PR2, PR6, PR8, PR9, PR10,</i>
<i>C-3</i>	Establish appropriate connections to achieve goals	<i>PR1, PR2, PR3, PR4, PR6, PR8, PR9,</i>
<i>C-4</i>	Form a communication strategy in professional activities	<i>PR1, PR3, PR6, PR8, PR10,</i>
<i>C-5</i>	Establish communicative connections in the context of a new professional situation	<i>PR3, PR4, PR6, PR8, PR9,</i>
<i>C-6</i>	Use information and communication technologies in professional activities	<i>PR1, PR4, PR8, PR9, PR10,</i>
<i>C-7</i>	Establish connections to ensure quality realization of professional work	<i>PR2, PR3, PR5, PR6, PR8,</i>
<i>C-8</i>	Establish communication connections in the process of conducting research	<i>PR2, PR8,</i>
<i>C-9</i>	Ability to communicate in compliance with moral, cultural and scientific values	<i>PR2, PR3, PR5, PR6, PR24, PR27</i>
<i>C-10</i>	Master the organization of the work of a clinical pharmacist in an inpatient hospital and a pharmacy; apply the basic	<i>PR2, PR3, PR5, PR6, PR8, PR10,</i>

	principles of communication, medical deontology, ethical norms of behavior in the relationship between a clinical pharmacist and a pharmacy visitor, a pharmacist, a patient, a doctor, a nurse, etc.	<i>PR11, PR24,</i>
<i>C-11</i>	Be able to form a communication strategy in professional activities in a pharmacy	<i>PR2, PR3, PR6, PR12,</i>
<i>C-12</i>	Form conclusions about the condition of the victim based on a preliminary examination. Interact with specialists of practical medicine.	<i>PR2, PR3, PR5, PR6, PR8, PR11, PR13, PR24,</i>
<i>C-13</i>	Search for evidence-based medicine data; learn the principles of identifying, solving and preventing drug-related problems	<i>PR3, PR5, PR8, PR11, PR13, PR24, PR27</i>
<i>C-14</i>	Establish connections necessary for: monitoring the effectiveness of medication use; functions of the system of pharmaceutical supply to the population	<i>PR3, PR5, PR6, PR24, PR27</i>
<i>C-15</i>	Form conclusions and professionally apply laws and regulatory documents	<i>PR2, PR3, PR4, PR6, PR8, PR10, PR26, PR27</i>
<i>R-1</i>	Be responsible for your civic position and activities	<i>PR1, PR2,</i>
<i>R-2</i>	Be responsible for the timeliness of the decisions made	<i>PR1, PR2, PR6, PR8, PR9, PR10,</i>
<i>R-3</i>	Be responsible for the timely acquisition of modern knowledge	<i>PR1, PR2, PR3, PR4, PR6, PR8, PR9,</i>
<i>R-4</i>	Be responsible for professional development with a high level of autonomy	<i>PR1, PR3, PR6, PR8, PR10,</i>
<i>R-5</i>	Be responsible for the chosen mechanism of adaptation and actions in a new situation	<i>PR3, PR4, PR6, PR8, PR9,</i>
<i>R-6</i>	Be responsible for the choice of information or communication technologies	<i>PR1, PR4, PR8, PR9, PR10,</i>
<i>R-7</i>	Be responsible for the quality realization of professional work	<i>PR2, PR3, PR5, PR6, PR8,</i>
<i>R-8</i>	Be responsible for conducting research at the appropriate level	<i>PR2, PR8,</i>
<i>R-9</i>	Be responsible for the observance of moral, cultural and scientific values	<i>PR2, PR3, PR5, PR6, PR24, PR27</i>
<i>R-10</i>	Be responsible for the consistency and timeliness of pre-medical care	<i>PR2, PR3, PR5, PR6, PR8, PR10, PR11, PR24,</i>
<i>R-11</i>	Be responsible for making decisions regarding the provision of pharmaceutical care to the patient	<i>PR2, PR3, PR6, PR12,</i>
<i>R-12</i>	Be responsible for the validity of management decisions regarding the improvement of the quality of pharmaceutical care	<i>PR2, PR3, PR5, PR6, PR8, PR11, PR13, PR24,</i>

<i>R-13</i>	Be responsible for quality monitoring of drug effectiveness	<i>PR3, PR5, PR8, PR11, PR13, PR24, PR27</i>	
<i>R-14</i>	Be responsible for social and economic processes in pharmacy	<i>PR3, PR5, PR6, PR24, PR27</i>	
<i>R-15</i>	Be responsible for the high-quality and timely use of regulatory documents in professional activities	<i>PR2, PR3, PR4, PR6, PR8, PR10, PR26, PR27</i>	
<b>6. Format and scope of the course</b>			
Format of the course	Full time		
Type of lessons	Number of hours	Number of groups	
Practical classes			
Seminars			
Individual work			
<b>7. Topics and content of the course</b>			
Class type code	Topic	Content of training	Code of learning outcomes
P-1 1 day	Acquaintance with the work of the department of the inpatient hospital and the maintenance of medical records.	Acquaintance with the work of the department of the inpatient hospital and the maintenance of medical records. Providing recommendations on the rational administration of drugs from the medication list purchased by the hospital for budget funds and received by the hospital department in accordance with the order requirement.	<i>Kn-1, Kn-2, Kn-5, Kn-8, Kn-10, Kn-13, Kn-14, Sk-1, Sk-2, Sk-5, Sk-8, Sk-10, Sk-13, Sk-14, C-1, C-2, C-5, C-8, C-10, C-13, C-14, R-1, R-2, R-5, R-8, R-10, R-13, R-14,</i>
P-2 1 day	Systematization of information represented in the simulated inpatient prescription paper.	Mastering the work with the Drug Register and the Drug Formulary. Establishing the rationality of the use of drugs in the simulated inpatient prescription paper according to the activities of the formulary system.	<i>Kn-2, Kn-3, Kn-4, Kn-7, Kn-8, Kn-9, Kn-10, Kn-11, Kn-12, Kn-13, Kn-14, Kn-15, Sk-2, Sk-3, Sk-4, Sk-7, Sk-8, Sk-9, Sk-10, Sk-11, Sk-12, Sk-13, Sk-14, Sk-15, C-2, C-3, C-4, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, R-2, R-3, R-4, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15,</i>
P-3 1 day	Providing of pharmacotherapy assessment in the simulated inpatient prescription paper (analysis of prescriptions advisability,	Determining the correctness of drug dosing in the simulated inpatient prescription paper, taking into account the patient's age, the main disease, and comorbidities. Determining the matching of the duration of drug use, the correctness of the route of administration in the simulated inpatient prescription	<i>Kn-2, Kn-3, Kn-4, Kn-7, Kn-8, Kn-9, Kn-10, Kn-11, Kn-12, Kn-13, Kn-14, Kn-15, Sk-2, Sk-3, Sk-4, Sk-7, Sk-8, Sk-9, Sk-10, Sk-11, Sk-12, Sk-13, Sk-14, Sk-15, C-2, C-3, C-4, C-7, C-8, C-9, C-10, C-11, C-12,</i>

	propriety of dosage, route of administration and duration of drug intake, detecting cases of prescribing contraindicated drugs etc.).	paper to the requirements of good clinical practice. Identification of cases of drug use in the simulated inpatient prescription paper, despite the presence of contraindications.	<i>C-13, C-14, C-15, R-2, R-3, R-4, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15,</i>
P-4 1 day	Identification of potential drug interactions in a simulated inpatient prescription paper. Assessment of possible outcomes of simultaneous administration of several drugs.	Mastering the main types of drug interactions. Identification of undesirable, dangerous, and appropriate drug interactions based on a specific list of prescriptions. Learning the assessment of the possible consequences of specific drug interactions and making conclusions based on them with elements of pharmaceutical care directed at the doctor, the patient, and the nurse.	<i>Kn-9, Kn-10, Kn-11, Kn-12, Kn-13, Kn-14, Kn-15, Sk-2, Sk-9, Sk-10, Sk-11, Sk-12, Sk-13, Sk-14, Sk-15, C-9, C-10, C-11, C-12, C-13, C-14, C-15, R-9, R-10, R-11, R-12, R-13, R-14, R-15,</i>
P-5 1 day	Forming elements of pharmaceutical care directed towards the patient, physician and the nursing staff. Final control.	Providing pharmaceutical care to physicians, patients, and nurses. Learning of a conclusion formulation about the rationality of pharmacotherapy based on the results of the analysis of the list of prescriptions.	<i>Kn-4, Kn-5, Kn-6, Kn-7, Kn-8, Kn-9, Kn-10, Kn-11, Kn-12, Kn-13, Kn-14, Kn-15, Sk-4, Sk-7, Sk-8, Sk-9, Sk-10, Sk-11, Sk-12, Sk-13, Sk-14, Sk-15, C-4, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, R-2, R-3, R-4, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15,</i>

## 8. Verification of learning outcomes

### Current control

Learning outcome code	Code of the type of classes	Method of verification of learning outcomes	Enrollment criteria
<i>Kn-1, Kn-2, Kn-3, Kn-4, Kn-5, Kn-6, Kn-7, Kn-8, Kn-9, Kn-10, Kn-11, Kn-12, Kn-13, Kn-14, Kn-15, Sk-1, Sk-2, Sk-3, Sk-4, Sk-5, Sk-6, Sk-7, Sk-8, Sk-9, Sk-10, Sk-11, Sk-12, Sk-13, Sk-14, Sk-15, C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, R-1, R-2, R-3, R-4, R-5, R-6, R-7, R-8, R-9, R-10, R-11, R-12, R-13, R-14, R-15,</i>	<i>P-1, P-2, P-3, P-4, P-5</i>	Current control of production practical training in clinical pharmacy is carried out daily by the immediate supervisor of the hospital. Current control includes testing of practical skills and abilities provided by the practical training program to perform individual practical tasks. The University's practical training supervisor systematically monitors students' journals, assesses practical skills, provides an oral examination.	Assessment of the current educational activity of students of production practical training in clinical pharmacy is carried out on a scale. "6 points" – the task is completely fulfilled; "4.8 points" – the task is fulfilled with a mistake which a student was able to fix himself; "3.6 points" – the task is fulfilled with a mistake which a student was not able to fix himself (it was fixed by the supervisor);



			“0 points” – the task is not fulfilled. The minimal number of points for the practical skills – 72 points, maximum – 120 points.
<b>Final control</b>			
General evaluation system	The form of final control in accordance with the syllabus is a graded credit (with the mark).		
Rating scales	Traditional 4-point scale, multi-point (200-point) scale, rating scale ECTS.		
Conditions of admission to the final control	Students who have completed all types of work provided for in the syllabus, completed all educational classes and scored at least 72 points while studying the content module are admitted to the final control.		
<b>Examination assessment criteria / graded credit (with the mark)</b>			
Type of final control	Methods of final control		Enrollment criteria
Graded credit (with the mark)	The final control is provided as a graded credit on the educational material, determined in the syllabus in terms according to the educational plan (student's individual educational plan). Final control is carried out in writing form. The form of graded credit is standardized and includes control of theoretical and practical training in the form of MCQ-test. The final control includes 80 questions of the 1st and 2nd level of complexity. Each option includes standardized questions, knowledge of which is necessary to understand the issues of discipline and master the relevant competencies.		The answer is estimated at 1 point for each correct answer. The maximum number of points that a student can score when passing the graded credit is 80. The minimum number of points in the exam – not less than 50.
The grade for practice is defined as the sum of points for current educational activities (not less than 72 points) and points for final control (not less than 50). Practice points for students who have successfully completed the program are converted into a traditional 4-point scale according to absolute criteria.			
<b>9. Course policy</b>			
The policy of the course is determined by the system of requirements for the student in the study of the discipline “Production practical training in Clinical pharmacy” and is based on the principles of academic integrity. Students are explained the value of acquiring new knowledge, the need to independently perform all types of work, tasks provided by the syllabus of this discipline. Lack of references to used sources, fabrication of sources, writing off, interference in the work of other students are examples of possible academic dishonesty. Detection of signs of academic dishonesty in the student's work is the basis for its non-enrollment by the teacher, regardless of the extent of plagiarism or deception. Literary sources may be provided by the teacher exclusively for educational purposes without the right to transfer to third parties. Students are encouraged to use other literature sources not provided for in the recommended list. When organizing the educational process, students, teachers and administration act in accordance with: Regulation on organization of the educational process ( <a href="https://cutt.ly/3ySk64r">https://cutt.ly/3ySk64r</a> ); Regulation on evaluation criteria and rules ( <a href="https://cutt.ly/lySlyw0">https://cutt.ly/lySlyw0</a> ); Regulation on Academic Integrity ( <a href="https://cutt.ly/EySkNHu">https://cutt.ly/EySkNHu</a> )			
<b>10. References</b>			
<b>Basic literature:</b>			
<ol style="list-style-type: none"> <li>Atkinson A. J. Principles of clinical pharmacology. – M.: Practical Medicine, 2013. – 532 p.</li> <li>Clinical Pharmacology: Ref. for students / Ed. O.Ya. Babak, O.M. Belovola, I.S. Chekman. – K.: Medicine, 2012. – 728 p.</li> <li>Clinical pharmacology: Textbook / O.M. Bilovol, O.F. Vozianov, I.K. Latoguz et al. / Ed. O.M. Bilovola, I.K. Latogusa and A.Ya. Tsiganenko: In 2 vols. – K.: Health, 2005. – Vol. 1. – 608 p.</li> </ol>			

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### **11. Equipment, logistics and software of the discipline**

To provide a high level of training for future professionals in mastering of the discipline “Production practical training in clinical pharmacy” modern interactive methods of teaching are used. During classes, on-line access to Internet resources is provided, the system of current control of students' knowledge is fully automated and conducted on the basis of open computer testing, there is a specially equipped computer class. Students have the opportunity to use the library of textbooks and manuals, periodicals, as well as their electronic database.

### **12. Additional information**

Responsible for the educational process at the department – Kovalska Iryna Mykhaylivna, senior lecturer, e-mail: [kovalskaira@gmail.com](mailto:kovalskaira@gmail.com).

During practical classes, as well as during practical training in the department of hospital, students must wear medical gowns, hats, and changeable shoes.

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