



COURSE SYLLABUS

Academic discipline for Master's degree training:
EXCIPIENTS IN PHARMACEUTICAL AND COSMETIC TECHNOLOGY

Specialty	I8 Pharmacy
Specialisation	I8.01 Pharmacy
Educational Programme	EPP “Pharmacy, Industrial Pharmacy” (2025)
Higher Education Level	Second (Master's)
Academic Year	2026–2027
Status of the Discipline	Elective
Language of Instruction	Ukrainian, English
Total Workload	3.0 ECTS credits
Year of Study / Semester	II / 4 (full-time)
Developer	Hanna Kramar, Associate Professor, Candidate of Pharmaceutical Sciences
Instructor(s), Guest Lecturers	O. Kryvoviaz, Professor, Doctor of Pharmaceutical Sciences; Yu. Tomashevskaya, Associate Professor, Candidate of Pharmaceutical Sciences; O. Toziuk, Associate Professor, Candidate of Pharmaceutical Sciences; H. Kramar, Associate Professor, Candidate of Pharmaceutical Sciences
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1. DESCRIPTION OF THE ACADEMIC DISCIPLINE

ABSTRACT

Brief course overview and relevance. The academic discipline “Excipients in Pharmaceutical and Cosmetic Technology” is one of the stages in the training of specialists. The main objective of the course is to provide the knowledge required for professional disciplines, including analysis of modern excipients, their evidence-based selection, and the rules for their use in the manufacture of medicinal products and cosmetics.

The subject of the discipline is the study of the properties and nomenclature of excipients used in the manufacture of medicinal products and cosmetic products.

Together with other pharmaceutical disciplines and social sciences, Excipients in Pharmaceutical and Cosmetic Technology plays an important role in shaping the professional outlook of pharmacy specialists and providing them with specialised technological training for professional activities aimed at supplying the public and healthcare institutions with medicinal products. The discipline also develops practical skills related to the development of the pharmaceutical sector and professional practice in Ukraine and abroad, as well as general requirements for the manufacture of medicinal products. It develops competencies that form the foundation for the development, production and quality control of medicinal products and cosmetic products, and prepares students for practical work in accordance with current requirements of the pharmaceutical and cosmetics industries.

Prerequisites (knowledge of which disciplines is required for successful completion of this discipline?)

The discipline is based on physics and chemistry studied during secondary education and requires prior knowledge of the following disciplines in the curriculum:

- General and Inorganic Chemistry (knowledge of the physical and chemical properties of compounds, the structure of matter, states of matter, solutions, concentration, etc.);
- Physical and Colloid Chemistry (basic knowledge of chemical thermodynamics, surface chemistry, the structure and organisation of macromolecules, and the structure and properties of colloidal particles);
- Biophysics with Physical Methods of Analysis (fundamentals of thermodynamics and mechanics, and basic knowledge of solid-state physics and materials science);
- Introduction to Pharmacy (key interdisciplinary relationships in pharmacy and the concepts of pharmaceutical technology and biopharmaceutics);
- Biology with Fundamentals of Genetics (cellular structure of living matter, its basic chemical composition, and differences between plant and animal cells);
- Botany (taxonomy, classification, histological structure and chemical composition of medicinal plants);
- Theoretical Foundations of Dosage Form Technology (classification of technological processes; biopharmaceutical factors affecting the efficacy of medicinal products; ability to identify homogeneous and heterogeneous systems; theoretical foundations of comminution and dissolution, stabilisation and dispersion of heterogeneous systems, and extraction).

PURPOSE AND OBJECTIVES

Purpose of the course and its relevance to professional practice: to prepare students for future professional activities by studying the nomenclature and physicochemical properties of excipients, their effects on the quality and safety of medicines, and the rules for using excipients in the compounding of medicinal products in pharmacies and in industrial production.

Competencies and learning outcomes supported by the discipline.

• *Integral competence:* the ability to solve tasks and to comprehend and address practical problems of a research and/or innovative nature in the field of pharmacy.

• *General competencies (GC):*

GC 02. Ability to think abstractly, analyse and synthesise.

GC 03. Knowledge and understanding of the subject area and professional activities.
GC 04. Ability to adapt and act in new situations; ability to show initiative.
GC 06. Skills in using information and communication technologies.
GC 07. Ability to choose communication strategies and work in a team.
GC 08. Ability to assess and ensure the quality of work performed.
GC 12. Ability to make decisions and act in accordance with the principle of zero tolerance for corruption and any other forms of academic or professional misconduct.

• *Special (professional/subject-specific) competencies (PC):*

PC 01. Ability to collect, interpret and apply data required for professional practice, research and innovative projects in pharmacy.

PC 02. Ability to integrate knowledge and solve complex pharmaceutical problems in broad or multidisciplinary contexts.

PC 04. Ability to apply knowledge of Ukrainian regulatory and legislative acts and Good Pharmaceutical Practice guidelines in professional activities.

PC 06. Ability to communicate knowledge, conclusions and reasoning in pharmacy clearly and unambiguously to professionals and non-professionals, including learners.

PC 11. Ability to ensure proper storage of medicinal products and other pharmacy goods according to their physicochemical properties and Good Storage Practice (GSP) requirements in healthcare institutions.

PC 12. Ability to organise pharmacy operations to supply the public and healthcare institutions with medicinal products and other pharmacy goods; maintain relevant reporting and accounting systems (managerial, statistical, accounting and financial) in accordance with the National Drug Policy and Good Pharmacy Practice (GPP); and perform product analysis and administrative documentation in compliance with pharmaceutical legislation.

PC 18. Ability to organise and carry out pharmacy compounding of medicinal products in various dosage forms according to prescriptions and healthcare institution orders, including justification of the technology and selection of excipients in accordance with Good Pharmacy Practice (GPP).

PC 19. Ability to organise and participate in the manufacture of medicinal products at pharmaceutical enterprises, including selection and justification of the technological process and equipment in accordance with Good Manufacturing Practice (GMP), and preparation of the required documentation.

PC 22. Ability to organise and perform quality control of medicinal products in accordance with the current State Pharmacopoeia of Ukraine and good pharmaceutical practices; determine sampling methods and perform standardisation according to current requirements; and prevent the distribution of falsified medicinal products.

Post-requisites. The discipline provides a foundation for “Pharmaceutical Technology: Compounding Pharmacy” and “Pharmaceutical Technology: Industrial Pharmaceutical Technology”. It is integrated with these disciplines and develops the ability to apply knowledge in further study and professional practice.

2. LEARNING OUTCOMES

PLO 01. Apply specialised knowledge and skills from general and professional disciplines in professional practice.

PLO 02. Critically evaluate scientific and applied problems in pharmacy.

PLO 03. Assess and ensure the quality and effectiveness of activities in pharmacy.

PLO 04. Comply with sanitary and hygienic requirements and occupational safety rules in professional practice.

PLO 05. Plan and implement professional activities on the basis of Ukrainian legislation and Good Pharmaceutical Practice recommendations.

PLO 06. Communicate professionally in the state language; use oral communication skills in a foreign language, analyse specialised texts and translate foreign-language information sources.

PLO 07. Demonstrate the ability to independently search for, analyse and synthesise information from various sources, including professional literature, patents and databases; evaluate it, including by statistical analysis; and apply the results to typical and complex specialised professional tasks, including the development and manufacture of medicinal products.

PLO 08. Develop and make effective decisions to solve complex pharmaceutical problems independently and through collaborative discussion; formulate individual and team objectives considering societal and production interests, overall strategy and existing constraints; and determine optimal ways to achieve objectives.

PLO 22. Develop technological documentation for the manufacture of medicinal products, select rational technologies, prepare medicinal products in various dosage forms according to prescriptions and healthcare institution orders, and prepare them for dispensing.

PLO 23. Conduct pharmaceutical development, justify technologies, organise the manufacture of medicinal products at pharmaceutical enterprises, and prepare technological manufacturing documentation.

PLO 26. Ensure and perform quality control of medicinal products of natural and synthetic origin and document the results; prepare quality certificates and certificates of analysis in accordance with the current State Pharmacopoeia of Ukraine, quality control methods, technological instructions and other requirements; and take measures to prevent the distribution of substandard, falsified and unregistered medicinal products.

3. FORMS OF ORGANISATION OF THE EDUCATIONAL PROCESS AND THEIR SCOPE

Type of Learning Activity	Hours
Lectures	14
Practical classes	16
Independent study	60
Total	90

4. THEMATIC PLAN

№	Topic Titles
1	Role of excipients in the development of pharmaceutical systems. Colouring agents and taste- and odour-correcting agents in the manufacture of medicinal products.
2	Excipients in extemporaneously compounded powders. Excipients in industrially manufactured solid dosage forms.
3	Excipients in liquid medicinal products prepared extemporaneously and industrially.
4	Excipients in extemporaneously prepared soft dosage forms. Excipients in industrially manufactured soft dosage forms.
5	Excipients in extemporaneously compounded and industrially manufactured suppositories.
6	Substances ensuring the stability and quality of solutions for injection and infusion. Excipients in sterile dosage forms.
7	Excipients in the technology of therapeutic cosmetics. Excipients in decorative cosmetics.
8	Final class. Pass/fail assessment.

5. FORMS AND METHODS OF ASSESSMENT OF LEARNING OUTCOMES

Ongoing assessment during practical classes	Methods: oral or written questioning and testing, computer-based questioning and testing, and solving situational problems.
Final assessment of the discipline – pass/fail	Conducted during the last practical class and determined by ongoing performance in accordance with the University Regulations: https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf
Assessment tools	Theoretical questions, tests, clinically oriented situational tasks, practical assignments and demonstration of practical skills.

6. ASSESSMENT CRITERIA

Students' knowledge is assessed in accordance with the current Regulations on the Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsia:

[https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)
[https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmue.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)

Ongoing assessment	Traditional grading scale: 5 “Excellent”, 4 “Good”, 3 “Satisfactory”, 2 “Unsatisfactory”.
Assessment of practical skills	Traditional grading scale.
Pass/fail assessment	200-point scale (the arithmetic mean of semester grades is converted into points). Passed: 122–200 points. Failed: fewer than 122 points. Individual work may contribute 1–12 additional points.

GRADING SCALE: NATIONAL AND ECTS

Total points for all learning activities	ECTS grade	National grade: pass/fail	
		For examination/course project/practical training	For pass/fail assessment
180–200	A	Excellent	Passed
170–179.99	B	Good	
160–169.99	C		
141–159.99	D		
122–140.99	E	Satisfactory	
60–121.99	FX	Unsatisfactory, with the possibility of retaking	Failed, with the possibility of retaking
0–59.99	F	Unsatisfactory, with mandatory repetition of the discipline	Failed, with mandatory repetition of the discipline

Criteria for assessing students' knowledge

Assessment of oral/written responses during ongoing assessment

The grade “Excellent” is awarded when a student demonstrates comprehensive knowledge of the topic, illustrates answers with a variety of examples, provides complete, accurate and clear

answers without prompting, presents the material without errors or inaccuracies, confidently solves problems and completes practical tasks of varying complexity, and independently generates innovative ideas.

The grade “Good” is awarded when a student knows and understands the topic well and provides correct, coherent and systematic answers, although they may not be exhaustive. The student answers additional questions without errors and solves all problems and completes practical tasks, experiencing difficulty only with the most challenging cases.

The grade “Satisfactory” is awarded when a student knows the overall content of the topic and demonstrates a satisfactory level of understanding. With guiding questions, the student can solve modified or simplified tasks; can solve problems and perform practical skills but has difficulty even in simple cases; cannot independently present a systematic answer but answers direct questions correctly.

The grade “Unsatisfactory” is awarded when the student’s knowledge and skills do not meet the requirements for a “Satisfactory” grade.

The criteria for assessing all other types of student work are based on the Regulations on the Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsia ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)) and are specified in the course programme. [https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)

Assessment of independent study

Independent study specified for a topic alongside classroom work is assessed during the ongoing assessment of that topic in the relevant practical class.

The maximum score a student can obtain after completing the discipline is 200 points. The minimum passing score is 122 points.

7. METHODOLOGICAL SUPPORT

Teaching and learning materials (lecture notes or extended lecture outlines), thematic plans for lectures, practical classes and independent study, ongoing assessment assignments, methodological recommendations and manuals.

8. ACADEMIC DISCIPLINE POLICIES

The completion of learning activities and all academic work within the discipline must comply with the requirements of the Regulations on the Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsia; ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)), the Regulations on the Organisation of the Educational Process for Higher Education Students Pursuing the Degree of Doctor of Philosophy at National Pirogov Memorial Medical University, Vinnytsia (https://www.vnmu.edu.ua/downloads/other/pologPhD_org.pdf); the Law of Ukraine “On Education” (Article 42); the Law of Ukraine “On Academic Integrity”; and the Code of Academic Integrity of National Pirogov Memorial Medical University, Vinnytsia (https://www.vnmu.edu.ua/downloads/other/kodex_akad_dobr_edit%202026.pdf)

Students are entitled to high-quality educational services and a safe learning environment under martial law, emergency situations and states of emergency; access to up-to-date scientific and educational information; and qualified academic guidance and support in studying the discipline and acquiring practical skills.

The Department’s policy on the provision of educational services is student-centred and is based on the regulatory documents of the Ministry of Education and Science of Ukraine and the Ministry of Health of Ukraine, the University Statute, the procedures governing the provision of educational services, including in emergency situations, as stipulated by the principal regulations and administrative directives governing the organisation of the educational process at National Pirogov Memorial Medical University, Vinnytsia, as well as on the principles of academic integrity.

Academic Integrity. When studying the discipline and completing all types of learning

assignments and/or research activities, students must comply with the Law of Ukraine “On Education” (Article 42), the Law of Ukraine “On Academic Integrity”, and the Code of Academic Integrity of National Pirogov Memorial Medical University, Vinnytsya ([University website → General Information → Key Documents → Code of Academic Integrity](#)). In the event of a violation of academic integrity principles, appropriate measures shall be taken in accordance with the applicable regulatory documents.

Compliance with VNMU Internal Regulations and Safety Requirements during Practical Classes. At the first practical class, the instructor provides a safety briefing on appropriate conduct on the Department premises, informs students of the location of the shelter and the evacuation route to the shelter in accordance with the approved evacuation plan, explains the rules of conduct while proceeding to and remaining in the shelter, and provides instructions on all actions stipulated by the Emergency Response Plan (pursuant to Order No. 505 dated 30 August 2023). In the event of an air raid alert or any other emergency warning signal, the instructor suspends the class. The instructor and students proceed together to the shelter and remain there until the warning signal is cancelled. Once the alert has been lifted, the instructor and students either resume the class in the Department’s classrooms or students independently complete the remaining learning material, which is subsequently assessed at the next class.

Requirements for Preparation for Practical Classes

Students are required to participate actively in the educational process: attend classes and come adequately prepared; complete the test tasks related to the current topic in their workbooks and fill in the required diagrams and tables; actively participate in discussions of the class topic; complete all assignments specified in the programme; search for additional information relevant to the topic and present it to their peers.

Students are expected to arrive at classes on time. Late arrival is not permitted in accordance with the Internal Regulations for Students of VNMU. A student who arrives more than 10 minutes late is not admitted to the class and is required to make up the missed class in accordance with the established procedure.

Students are expected to be polite, courteous, and respectful in their interactions with teaching staff, other University employees, fellow students, and other persons studying at VNMU. Students must maintain a quiet and orderly environment and demonstrate appropriate conduct on the Department premises.

In its activities, the Department adheres to the principles of mutual respect and tolerance. Students are expected to uphold the same principles.

Students must comply with safety regulations while on the Department premises.

When working in teaching and research laboratories, students must comply with the applicable safety regulations (published on the website of the Pharmacy Department). When completing practical assignments, students must keep their workstations clean and orderly and leave them tidy upon completion of the practical work.

Use of Mobile Phones and Other Electronic Devices. The use of mobile phones and other electronic devices during classes is not permitted, except for emergency calls or when such devices are used to present supplementary materials relevant to the topic of the class.

Absence from Classes. Missed classes must be made up in accordance with the procedure established by the current Regulations on the Organization of the Educational Process at National Pirogov Memorial Medical University, Vinnytsya ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)), at the times specified in the make-up schedule published on the website of the Pharmacy Department ([VNMU website](#)), either with the instructor on duty or with the student’s regular instructor. Making up a missed class involves completing the assignments related to the topic of the missed class in accordance with the specific requirements of the discipline.

Mastery of lecture topics is assessed during practical classes, seminars (including the assessment of practical skills), and final assessment, in accordance with the Regulations on the

Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsya ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf))

Admission to Final Assessment. The procedure for admission to final assessment in the discipline is set out in the current Regulations on the Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsya ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)).

Students are admitted to final assessment provided that they have no outstanding academic requirements: the average grade for ongoing assessment must be at least 3.0 (72 points on the 120-point scale); all final sessions for the content modules must have been completed with a passing grade (“3” or higher); and all missed practical classes must have been made up with a passing grade (“3” or higher). Otherwise, the student must improve their average grade by making up unsatisfactory grades and must make up all missed classes.

Additional Points for Individual Assignments. Students may receive additional points in the discipline for the successful completion of individual assignments, the content of which is published on the Department’s website as part of the teaching and learning materials for the discipline. The number of points awarded is determined based on the results of the individual assignment in accordance with the current Regulations on the Organisation of the Educational Process at National Pirogov Memorial Medical University, Vinnytsya. ([https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc\(2026\).pdf](https://www.vnmu.edu.ua/downloads/other/polog_organiz_ocv_proc(2026).pdf)).

Resolution of Conflict Situations

In the event of misunderstandings or concerns regarding the quality of educational services, assessment of academic performance, or other conflict situations involving an instructor, students should first raise their concerns directly with the instructor. If the issue remains unresolved, the student has the right to submit an appeal to the Head of the Department in accordance with the Regulations on the Consideration of Appeals from Higher Education Students at National Pirogov Memorial Medical University, Vinnytsya ([VNMU website → General Information → Key Documents](#)).

Students also have the right to contact the student self-government bodies, the administration of the Faculty (Institute), or the University administration, either directly or through the designated feedback channels (“trust boxes”), links and addresses for which are available on the official VNMU website.

The Department recognises that a student-centred approach entails students’ responsibility for the conscious and active acquisition of knowledge and for proper compliance with the rules and requirements established by applicable legislation and VNMU regulatory documents. The Department reserves the right to inform the relevant University bodies of any violations committed by students.

Policy on Blended Learning

The organisation of blended learning is governed by the Regulations on the Introduction of Elements of Distance Learning at National Pirogov Memorial Medical University, Vinnytsya ([VNMU website → General Information → Key Documents](#)). The main online learning platforms used for classes are Microsoft Teams and Google Meet.

The procedures for conducting practical classes, lectures, make-up classes, and consultations in the distance learning format are published on the Department’s webpage ([VNMU website → Pharmacy Department → For Students/Postgraduate Students → Mode of Study → Year of Study → Teaching and Learning Materials](#)).

Communication with the Instructor. Students may contact the instructor via Microsoft Teams chat, messaging applications (Viber, Telegram, WhatsApp), or email, as determined by the instructor, during working hours.

LITERATURE

1. Pharmacy – based technology of drugs: the manual for applicants of higher education / O.I.Tykhonov, O.A. Yarnykh, O.A. Rukhmakova, G.B. Yuryeva: Edited by O.I. Tykhonov and T.G. Yarnykh. – Kharkiv:NUPh:Golden Pages, 2019. – 488 p.

2. Teaching manual “Pharmaceutical Technology: Pharmacy Compounding” for students of the Faculty of Pharmacy (specialty “Pharmacy, Industrial Pharmacy”), Part 1. <https://cutt.ly/KeXcLMWc>
3. Teaching manual “Pharmaceutical Technology: Pharmacy Compounding” for students of the Faculty of Pharmacy (specialty “Pharmacy, Industrial Pharmacy”), Part 2. <https://cutt.ly/BeXcKTvA>
4. Pharmaceutical Technology: teaching and methodological manual for higher education students. O. V. Mazulin, A. O. Ostapenko, O. S. Shpychak et al. 3rd ed., unchanged. Lviv: Publisher.
5. Law of Ukraine “On Medicinal Products” of 23 August 2023. Available at: <https://zakon.rada.gov.ua/laws/show/2469-20#Text>.
6. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 5. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
7. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 6. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
8. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 7. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
9. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 7. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
10. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 8. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
11. Order of the Ministry of Health of Ukraine No. 360 of 19 July 2006 “On Approval of the Rules for Prescribing Medicinal Products and the Procedure for Dispensing Medicinal Products from Pharmacies and Their Structural Units”.
12. Order of the Ministry of Health of Ukraine No. 1099 of 10 August 2025 “On Approval of State Sanitary Rules and Regulations: Sanitary and Anti-Epidemic Requirements for Pharmacy Institutions”.
13. Order of the Ministry of Health of Ukraine No. 812 of 17 October 2012 “On Approval of the Rules for the Manufacture (Compounding) of Medicinal Products in Pharmacy Conditions”. <http://zakon1.rada.gov.ua/laws/show/z1606-04>
14. Guideline ST-N MOZU 42-4.5:2015 “Requirements for the Compounding of Non-Sterile Medicinal Products in Pharmacy Conditions”. http://www.moz.gov.ua/ua/portal/dn_20150701_0398.html
15. Guideline ST-N MOZU 42-4.6:2015 “Requirements for the Compounding of Sterile Medicinal Products in Pharmacy Conditions”.

Supplementary literature

1. State Pharmacopoeia of Ukraine. 1st ed. Kharkiv: RIREG, 2001. 556 p.
2. State Pharmacopoeia of Ukraine. 1st ed., Supplement 1. Kharkiv: RIREG, 2004. 494 p.
3. State Pharmacopoeia of Ukraine. 1st ed., Supplement 2. Kharkiv: RIREG, 2008. 620 p.
4. State Pharmacopoeia of Ukraine. 1st ed., Supplement 3. Kharkiv: RIREG, 2010. 279 p.
5. State Pharmacopoeia of Ukraine. 1st ed., Supplement 4. Kharkiv: RIREG, 2011. 538 p.
6. State Pharmacopoeia of Ukraine. 2nd ed. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
7. State Pharmacopoeia of Ukraine. 2nd ed. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
8. State Pharmacopoeia of Ukraine. 2nd ed. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
9. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 1. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.
10. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 2. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.

11. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 3. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.

12. State Pharmacopoeia of Ukraine. 2nd ed., Supplement 4. Kharkiv: Ukrainian Scientific Pharmacopoeial Centre for Quality of Medicines.

ELECTRONIC RESOURCES

1. University website: <https://vnmuedu.ua>
2. University Library website: <http://library.vnmuedu.ua><http://library.vnmuedu.ua>
3. Department of Pharmacy, National Pirogov Memorial Medical University: <https://www.vnmuedu.ua>
4. World Health Organization: <http://www.who.int/en/>
5. Ukrainian Testing Center for Professional Quality in Healthcare:
<https://www.testcentr.org.ua/uk/><https://www.testcentr.org.ua/uk/>
6. Ministry of Health of Ukraine: <https://moz.gov.ua/><https://moz.gov.ua/>
7. Public Health Center of the Ministry of Health of Ukraine: [https://phc.org.ua/kontrol-](https://phc.org.ua/kontrol-zakhvoryuvan)
[zakhvoryuvan](https://phc.org.ua/kontrol-zakhvoryuvan)<https://phc.org.ua/kontrol-zakhvoryuvan>
8. Official web portal of the Verkhovna Rada of Ukraine:
<https://www.rada.gov.ua/><https://www.rada.gov.ua/>
9. State Service of Ukraine on Medicines and Drugs Control:
<https://www.dls.gov.ua/><https://www.dls.gov.ua/>

The syllabus for “Excipients in Pharmaceutical and Cosmetic Technology” was discussed and approved at a meeting of the Department of Pharmacy (Minutes No. 1, dated 26 August 2026).

Course Coordinator

Candidate of Pharmaceutical Sciences, Associate Professor
(Academic degree and title)

(Signature)

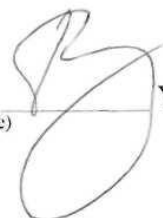


Hanna KRAMAR

Acting Head of the Department of Pharmacy

Candidate of Pharmaceutical Sciences,
Associate Professor
(Academic degree and title)

(Signature)



Yuliia TOMASHEVSKA