



MINISTRY OF HEALTH OF UKRAINE
NATIONAL UNIVERSITY OF PHARMACY
Faculty of pharmacy
Department of pharmaceutical technology of drugs

TECHNOLOGY OF HOMEOPATHIC MEDICINES

(name of educational component)

**WORK PROGRAM
of educational component**

training second master's level

(name of higher education level)

in specialty 226 Pharmacy, industrial pharmacy

(code and specialty name)

field of knowledge 22 Public Health

(code and name of field of knowledge)

of educational program Pharmacy (for foreign students)

in specialization(s) _____

(name of specialization, if available)

Kharkiv 2023
year of creation

Work program of the educational component "Technology of homeopathic medicines " specialty 226 Pharmacy, industrial pharmacy of the educational program Pharmacy (4.10 days) of students of higher education of the second (master's) level of the 4th year.

Educational course team:

VYSHNEVSKA Liliia, head of the pharmaceutical technology of drugs department, doctor of pharm. sc., prof. of a higher education institution

POLOVKO Nataliia, professor of the pharmaceutical technology of drugs department, Doctor of Pharm. sc., prof. of a higher education institution

KONOVALENKO Ilona, associate professor of the pharmaceutical technology of drugs department, PhD, ass. prof. of a higher education institution

(specify the last name, name of the authors, their positions, scientific degrees and scientific titles)

The work program was reviewed and approved at the meeting of the pharmaceutical technology of drugs

Record No. 1 from "_ 1_" of September 2023

Head of the department

 _____ prof. Liliia VYSHNEVSKA

The work program was approved at a meeting of the specialized methodological commission for technological disciplines

Record No. 1 from 1 September 2023

Head of the specialized commission

 _____ prof. Olena RUBAN

1. Description of the educational component

Language of instruction: English

Status of the educational component: selective

Prerequisites for studying the educational component of the discipline is based on the study of biophysics with physical methods of analysis, general, inorganic and organic chemistry, physical and colloidal chemistry, biology with the basics of genetics, pharmaceutical botany and is integrated with the technology of industrial technology of drugs.

The educational component lays the foundations of professional training, promotes the formation of technical and pharmaceutical thinking necessary for the pharmaceutical specialty; together with other pharmaceutical educational components and social sciences, the technology of homeopathic medicines plays an important role in providing special technological training for the implementation of professional activities.

The subject of the study of the educational component "Technology of homeopathic medicines" is familiarization with the basics of the homeopathic method of treatment, theories of the mechanism of action of these medicines, prescribing recipes, the technology of various homeopathic medicines, the features of the use of natural raw materials in homeopathy and the application of methods of qualitative analysis of homeopathic medicines with an emphasis on modern instrumental methods of analysis.

Information content of the educational component. 90 hours of 3.0 ECTS credits are allocated to the study of the educational component.

1. Purpose and tasks educational component

The **purpose** of teaching the educational component "Technology of homeopathic medicines" is to deepen professional knowledge and familiarize with the theoretical and practical bases of the technology of homeopathic medicinal products in pharmacy conditions, quality control, rules of registration before release, storage conditions and features of use by patients.

The **main tasks** of the educational component "Technology of homeopathic medicines" are

- assimilation of the requirements of current regulatory documents (SPhU, GPP and current orders) for the organization of production activities of pharmacies regarding the manufacture of homeopathic medicines in various dosage forms;
- use in professional activity of regulatory and legislative acts of Ukraine, requirements of proper pharmacy practice (GPP) for the manufacture of RMP in pharmacies;
- formation of students of higher education knowledge on: theoretical foundations of the technology of manufacturing various types of homeopathic dosage forms, conducting step-by-step control, ways of improving the technology of homeopathic dosage forms in pharmacy conditions.

1. Competencies and planned learning outcomes

The educational component "Technology of drugs in pharmacy production" ensures that students of higher education acquire the following **competencies**:

integral:

the ability to solve typical and complex specialized tasks and practical problems in professional pharmaceutical activity using the provisions, theories and methods of fundamental, chemical and technological sciences; integrate knowledge and solve complex issues, formulate judgments based on insufficient or limited information; clearly and unambiguously convey their conclusions and knowledge, rationally justifying them, to a professional and non-specialist audience.

general competences:

GC 2. Ability to apply knowledge in practical situations.

GC 6. Knowledge and understanding of the subject area and understanding of professional activity.

GC 9. Skills in using information and communication technologies.

GC 11. The ability to evaluate and ensure the quality of the work performed.

special (professional):

PC 7. The ability to ensure the proper storage of medicines and other products of the pharmacy assortment in accordance with their physicochemical properties and the rules of Good Storage Practice (GSP) in health care institutions.

PC 12. Ability to use knowledge of regulatory and legislative acts of Ukraine and recommendations of proper pharmaceutical practices in professional activities.

PC 14. The ability to organize and carry out the production activities of pharmacies for the manufacture of medicinal products in various dosage forms according to the prescriptions of doctors and orders of medical institutions, including the justification of technology and the selection of auxiliary materials in accordance with the rules of Good Pharmacy Practice (GPP).

Integrative final *program learning outcomes* (PLO), the formation of which is facilitated by the educational component:

PLO 3. Adhere to the norms of the sanitary and hygienic regime and the requirements of safety equipment when carrying out professional activities.

PLO 4. Demonstrate the ability to independently search, analyze and synthesize information from various sources and use these results to solve typical and complex specialized tasks of professional activity.

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

PLO 26. To choose a rational technology, to manufacture medicinal products in various medicinal forms according to the prescriptions of doctors and orders of medical institutions, to process them before discharge. Perform technological operations: weigh, measure, dose various medicinal products by weight, volume, etc. Develop and draw up technological documentation for the manufacture of medicinal products in pharmacies.

As a result of studying the educational component, the student must

know:

- basic concepts, content and functions of homeopathy as a science;
- the place, state and prospects of the development of homeopathy in modern medicine and pharmacy; the main regulatory framework regulating the production and quality of homeopathic medicines;
- mechanisms of action of homeopathic medicines;
- basic principles of homeopathy;
- peculiarities of prescribing homeopathic prescriptions;
- methods of quality control of homeopathic raw materials;
- design features for storing homeopathic medicines.

be able to:

- use regulatory documents and reference literature on homeopathic pharmacy;
- prescribe homeopathic prescriptions;
- describe and characterize homeopathic medicinal raw materials and manufactured homeopathic preparations;
- to potentiate homeopathic matrix tinctures and homeopathic dilutions according to the methods of SPhU;
- conduct quality control of homeopathic raw materials and manufactured homeopathic drugs.

possess:

- basic concepts, content and functions of homeopathy as a science;
- mechanisms of action of homeopathic medicines;
- the technology of manufacturing homeopathic preparations;
- knowledge of quality control of homeopathic raw materials and manufactured homeopathic preparations.

1. The structure of the educational component

Names of content modules and topics	Amount in hours				
	Full-time Fm(4,10 д)				
	all	including			
l		sem.	pr.	lab.	i. w.
Content module 1. General issues of the technology of homeopathic medicines. Technology of basic homeopathic drugs					
Topic 1. Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.	12	1	2	3	6
Topic 2. Classification of homeopathic drugs. Preparation of homeopathic matrix tinctures according to SPhU and their quality control	9			3	6
Topic 3. Dilution scales. The principle of potentiation of homeopathic drugs. Potentiation of homeopathic matrix tinctures	8	1		2	5
Topic 4. Homeopathic dilutions. Technology of liquid homeopathic dilutions, preparation for release and quality control	8			2	6
Topic 5. Goering's law of healing. Technology of homeopathic oils, preparation for release and quality control	8	1		2	5
Topic 6. Technology of basic drugs, liquid homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 1	9			3	6
Together according to content module 1	54	3	2	15	34
Content module 2. Technology of homeopathic dosage forms					
Topic 7. Constitutional type of the patient. Homeopathic granules. Technology of homeopathic granules, preparation for release and their quality control	9	1		2	6
Topic 8. Triturations are homeopathic. Homeopathic trituration technology, preparation for release and quality control	9	1		2	6
Topic 9. Complex homeopathic medicines. Technology of complex homeopathic medicines, preparation for release and their quality control	9			2	6
Topic 10. Technology of solid, complex homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 2	9	1		3	6
Together according to content module 2	36	3		9	24
Total hours	90	6	2	24	58

1. Information content of the educational component

Content module 1. General issues of the technology of homeopathic medicines. Technology of basic homeopathic drugs

Topic 1. Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.

State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines. Basic concepts and terms of homeopathy: homeopathy, homeopathic pharmacy, homeopathic drugs, homeopathic diagnosis, vital forces, principle of likeness. State regulation of the production of homeopathic medicines. Problems of the technology of homeopathic drugs as a science and educational discipline. Nomenclature of homeopathic medicines (Order of the Ministry of Health of Ukraine No. 165 dated 03.08.1989, Project "Ukrainian nomenclature of monocomponent homeopathic medicines").

Topic 2. Classification of homeopathic drugs. Preparation of homeopathic matrix tinctures according to SPhU and their quality control

Classification of homeopathic preparations obtained from raw materials of plant, animal and mineral origin. Technology of homeopathic matrix tinctures depending on the percentage content of juice in plant raw materials according to SPhU, physicochemical methods of quality analysis of matrix tinctures.

Topic 3. Dilution scales. The principle of potentiation of homeopathic drugs. Potentiation of homeopathic matrix tinctures

Dilution scales: decimal, hundredth, M, LM; their essence, designation and concentration of active substances. Classification of homeopathic dilutions (low, medium, high). Appointment of appropriate dilutions for the treatment of acute and chronic diseases. Features of the technology of potentiation of homeopathic matrix tinctures depending on the method of preparation. Solvents used for dilution of base preparations.

Topic 4. Homeopathic dilutions. Technology of liquid homeopathic dilutions, preparation for release and quality control

Peculiarities of preparation of dilutions on decimal and hundredth scales. Liquid homeopathic dilutions from mineral substances and chemical compounds. Homeopathic dilutions. Characteristic. Peculiarities of application in homeopathic practice. Homeopathic drops. Definition. Characteristic. Technology. Quality control. Features of registration before vacation.

Topic 5. Goering's law of healing. Technology of homeopathic oils, preparation for release and quality control

Basic principles of Goering's law of healing. Comparison of allopathic and homeopathic therapy. Oils. Definition. Characteristic. Quality control Features of registration before release. Solvents used for the manufacture of homeopathic oils.

Topic 6. Technology of basic drugs, liquid homeopathic medicinal forms, preparation for release and their quality control.

Control of acquisition of CM 1

Content module 2. Technology of homeopathic dosage forms

Topic 7. Constitutional type of the patient. Homeopathic granules. Technology of homeopathic granules, preparation for release and their quality control

Constitutional type of the patient. Solid dosage forms in homeopathic practice. Homeopathic granules. Definition. Characteristic. Technology and requirements for their quality. Reception features. Features of registration before vacation.

Topic 8. Triturations homeopathic. Homeopathic trituration technology, preparation for release and quality control

Triturations are homeopathic. Definition. Characteristic. Quality control Features of registration before release. Storage conditions for triturations, sanitary regime. Excipients in the technology of solid medicines.

Topic 9. Complex homeopathic medicines. Technology of complex homeopathic medicines, preparation for release and their quality control

Principles of complex homeopathy. Classification and characteristics of complex homeopathic drugs. Technology of solid and liquid complex means. Quality control Features of registration before release.

Topic 10. Technology of solid, complex homeopathic medicinal forms, preparation for release and their quality control.

Control of acquisition of CM 2

1. Lecture topics

№	Topic name	Amount in hours
1	Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.	1
2	Dilution scales. The principle of potentiation of homeopathic drugs. Potentiation of homeopathic matrix tinctures	1

3	Hering's law of healing. Technology of homeopathic oils, preparation for release and quality control	1
4	Constitutional type of the patient. Homeopathic granules. Technology of homeopathic granules, preparation for release and their quality control	1
5	Homeopathic triturations. Homeopathic trituration technology, preparation for release and quality control.	1
6	Technology of solid, complex homeopathic medicinal forms, preparation for release and their quality control.	1
Total hours		6

1. Topics of seminar classes

№	Topic name	Amount in hours
1	Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.	2
Total hours		2

1. Topics of practical classes

№	Topic name	Amount in hours
1	Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.	3
2	Classification of homeopathic drugs. Preparation of homeopathic matrix tinctures according to SPhU and their quality control	3
3	Dilution scales. The principle of potentiation of homeopathic drugs. Potentiation of homeopathic matrix tinctures	2
4	Dilutions homeopathic. Technology of liquid homeopathic dilutions, preparation for release and quality control	2
5	Hering's law of healing. Technology of homeopathic oils, preparation for release and quality control	2
6	Technology of basic drugs, liquid homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 1	3
7	Constitutional type of the patient. Homeopathic granules.	2
8	Technology of homeopathic granules, preparation for release and their quality control	2
9	Triturations homeopathic. Homeopathic trituration technology, preparation for release and quality control.	2
10	Technology of solid, complex homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 2	3
Total hours		24

1. Topics of laboratory classes

Not provided for in the working curriculum.

1. Independent work

№	Topic name	Amount in hours
1	Concept of homeopathy and its main principles. State regulation of the production of homeopathic medicines. Peculiarities of prescribing homeopathic prescriptions. Nomenclature of homeopathic medicines.	6
2	Classification of homeopathic drugs. Preparation of homeopathic matrix tinctures according to	6

	SPhU and their quality control	
3	Dilution scales. The principle of potentiation of homeopathic drugs. Potentiation of homeopathic matrix tinctures	5
4	Dilutions homeopathic. Technology of liquid homeopathic dilutions, preparation for release and quality control	6
5	Hering's law of healing. Technology of homeopathic oils, preparation for release and quality control	5
6	Technology of basic drugs, liquid homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 1	6
7	Constitutional type of the patient. Homeopathic granules.	6
8	Technology of homeopathic granules, preparation for release and their quality control	6
9	Triturations homeopathic. Homeopathic trituration technology, preparation for release and quality control.	6
10	Technology of solid, complex homeopathic medicinal forms, preparation for release and their quality control. Control of acquisition of CM 2	6
Total hours		58

Tasks for independent work

1. History of the development of homeopathy.
2. Basic terms of homeopathy.
3. Basic principles of homeopathy.
4. State regulation of the production of homeopathic preparations.
5. Modern aspects of the development of homeopathic therapy in Ukraine and the world.
6. Homeopathic prescriptions and abbreviations used.
7. Modern nomenclature of homeopathic medicines.
8. Preparation for a practical lesson using information and communication technologies.
9. Classification of homeopathic drugs according to the sources of raw materials, method of application, principle of dosage.
10. Matrix tinctures.
11. Basic preparations.
12. Extract agents for the production of base preparations.
13. Glycerin macerates.
14. Technology of production of basic drugs according to V. Schwabe's guidance.
15. Evaluation of the quality of basic homeopathic remedies and their preparation for use.
16. Dilution scales and dosing features.
17. The principle of dynamization of homeopathic medicines.
18. Method of potentiation of homeopathic matrix tinctures according to V.Schwabe
19. Liquid base preparations from mineral substances.
20. Liquid dilutions from matrix tinctures.
21. Excipients in the technology of liquid medicines.
22. Technology of production of liquid dilutions according to the guidance of V. Schwabe.
23. Goering's law of healing.
24. Oils in homeopathic practice. Definition. Characteristic.
25. Excipients in the technology of homeopathic oils.
26. Technology of manufacturing homeopathic oils according to the guidance of V. Schwabe.
27. Constitutional type of the patient.
28. Granules in homeopathic practice.
28. Methods of preparation of homeopathic granules from matrix tinctures, their dilutions.
29. Excipients in the technology of homeopathic granules.

30. Technology of manufacturing homeopathic granules according to the guidance of V. Schwabe.
31. Modalities and miasms in homeopathy.
32. Triturations homeopathic. Definition. Characteristic.
33. Methods of preparation of homeopathic triturations.
34. Excipients in the technology of solid medicinal products.
35. The technology of making homeopathic triturations according to the guidance of V. Schwabe.
36. Complex homeopathy.
37. Liquid and solid complex homeopathic medicines. Registration before the release of complex homeopathic drugs.
38. Methods of manufacturing complex homeopathic preparations.

2. Criteria and procedure for evaluating learning outcomes

The criteria for evaluating the knowledge and skills of higher education students from the educational component "Technology of homeopathic medicines" were developed in accordance with POL A2.2-25-031 Regulations on the assessment of knowledge of higher education students at the National Pharmaceutical University.

The evaluation of the success of higher education institutions in the educational component is a rating, is presented on a one-point scale and is defined according to the ECTC system and according to the traditional scale adopted in Ukraine.

Evaluations (in points) are reflected in the calendar-thematic plans of practical classes.

The number of points that a student receives in a practical lesson ranges from 4 to 6.

Evaluation criteria	Scores
<p><i>theoretical training:</i></p> <ul style="list-style-type: none"> ➤ showed comprehensive and in-depth knowledge of the theoretical material from "Technology of homeopathic medicines" on the subject of the lesson, which is presented in the textbook, lecture texts and additional literature; ➤ completed the written homework flawlessly; ➤ gave comprehensive answers to the teacher's theoretical questions; <p><i>practical training:</i></p> <ul style="list-style-type: none"> ➤ wrote out a prescription without errors according to the current RTB; ➤ gave the characteristics of the medicinal plant raw materials taking into account the juice content and moisture content of the raw materials / or gave the characteristics of the medicinal substance (physico-chemical properties); ➤ correctly processed and prepared fresh medicinal plant raw materials (if necessary) in accordance with the requirements of the SPhU; ➤ correctly prepared his workplace (picked up weighing and measuring devices, utensils, auxiliary material, etc.); ➤ calculated the amount of solvent and active substance on the reverse side of the written control passport without errors; ➤ correctly prepared a homeopathic medicinal product, observing the pharmaceutical order and sanitary regime at his workplace; ➤ packaged and prepared the homeopathic medicinal product for release in accordance with current requirements; ➤ handed over to the teacher for inspection an impeccably prepared homeopathic medicinal product with the necessary documentation (prescription and PWC). 	<p>5.0–6.0</p>
<p><i>theoretical training:</i></p> <ul style="list-style-type: none"> ➤ showed full knowledge of the theoretical material on the topic of the lesson, which is presented in the textbook and lecture texts; ➤ completed written homework without errors; ➤ gave answers to the teacher's theoretical questions with minor shortcomings; ➤ correctly answered 4 test tasks during the input control of knowledge; <p><i>practical training:</i></p> <ul style="list-style-type: none"> ➤ wrote out a prescription without errors according to the current RTB; 	<p>3.0–4.9</p>

<ul style="list-style-type: none"> ➤ gave an incomplete description of the medicinal plant material / or medicinal substance; ➤ correctly processed and prepared fresh medicinal plant raw materials (if necessary) in accordance with the requirements of the SPhU; ➤ prepared his workplace with errors (for example, irrationally selected dishes, etc.); ➤ made calculations on the reverse side of the PWC without errors; ➤ correctly prepared a homeopathic medicinal product with small errors in compliance with the pharmaceutical order and sanitary regime in his workplace (for example, he did not wipe the scales before work, etc.); ➤ packaged and processed a homeopathic medicinal product with insignificant errors (sloppy labels or signature, etc.) before release; ➤ handed the prepared homeopathic medicinal product with the necessary documentation (prescription and PWC) to the teacher for verification. 	
<p>theoretical training:</p> <ul style="list-style-type: none"> ➤ showed knowledge of the theoretical material from "Technology of homeopathic medicines" on the topic of the lesson in the amount that is considered necessary and sufficient to perform the practical part of the lesson; ➤ completed written homework with errors; ➤ gave answers to theoretical questions with errors, which he corrected with the help of the teacher; <p>practical training:</p> <ul style="list-style-type: none"> ➤ mistakes were made when writing a prescription according to the current RTB; ➤ gave an incomplete description of the medicinal plant material / or medicinal substance; ➤ incorrectly processed and did not prepare fresh medicinal plant raw materials in accordance with the requirements of the SPhU (if necessary); ➤ prepared his workplace with errors (for example, irrationally selected dishes, etc.); ➤ made calculations on the reverse side of the PWC without errors; ➤ correctly produced a homeopathic medicine, but the technology is irrational and without theoretical justification; ➤ made mistakes in compliance with the pharmaceutical order and sanitary regime in his workplace (for example, did not wipe the scales before work, etc.); ➤ packed and issued a homeopathic medicinal product with errors before release (incorrectly selected/calculated ethanol concentration, the technological order of the ingredients in the PWC was not met, not all labels were pasted, etc.); ➤ handed the prepared homeopathic medicinal product with the necessary documentation (prescription and passport of written control) to the teacher for verification. 	2.9–2.0
<p>theoretical training:</p> <ul style="list-style-type: none"> ➤ did not complete written homework; ➤ did not get acquainted with the theoretical material on "Technology of homeopathic medicines" on the topic of the lesson, which is presented in the textbook and lecture texts; ➤ did not answer the teacher's theoretical questions; <p>practical training:</p> <ul style="list-style-type: none"> ➤ gross mistakes were made when writing a prescription; ➤ did not give a description of the medicinal plant material / or medicinal substance; ➤ prepared his workplace with errors; ➤ calculations on the reverse side of the PWC are made with errors; ➤ chose the wrong technology of homeopathic medicine and did not provide its theoretical justification. 	0–2.9

The student's independent work is monitored during each practical session, during the control of the content module.

In the event that the SHE came to the class unprepared, he must be present at the class. After working with the electronic study guide for independent work on the Technology of homeopathic medicines and an individual conversation with the teacher on the topic of the lesson, the student is admitted to practical work.

Control of mastering content modules is carried out in the last classes of studying the topics of content modules. The means of diagnosing students' knowledge are 2 theoretical questions and 1 practical question. Only those students who have completed all types of work provided by the curriculum (worked out, missed practical classes, etc.)

Control of CM 1 is carried out in order to check the level of assimilation of theoretical material and practical skills. Theoretical knowledge is controlled by solving 2 calculation problems and 1 prescription. Control of practical skills is carried out by preparing homeopathic medicines according to an individual prescription and drawing up the relevant documentation.

Control of CM 2 is carried out in order to check the level of assimilation of theoretical material and practical skills. Theoretical knowledge is controlled by solving 2 calculation problems and 1 prescription. Control of practical skills is carried out by preparing homeopathic medicines according to an individual prescription and drawing up the relevant documentation.

Ticket structure:

- *an individual prescription, according to which the SHE must describe and manufacture a homeopathic medicinal product;*
- *2 calculation problems.*

Evaluation criteria	Scores
	10.0–15.0
<p><i>An individual prescription, according to which SHE must describe and manufacture a homeopathic medicinal product;</i></p> <ul style="list-style-type: none"> • wrote out a prescription without errors according to the current ND; • gave a detailed description of the medicinal product taking into account the physico-chemical properties of medicinal substances; • correctly prepared his workplace (picked up weighing devices, utensils, auxiliary material, etc.); • performed calculations on the reverse side of the written control passport without errors; • correctly prepared the medicinal product, observing the pharmaceutical order and sanitary regime in his workplace; • packaged and processed the medicinal product before release in accordance with current requirements; <p>handed over to the teacher for inspection an impeccably prepared medicinal product with the necessary documentation (prescription and PWC).</p> <p><i>Calculation tasks</i></p> <ul style="list-style-type: none"> • Correctly solved calculation problems with an explanation of the sequence of actions 	14.0–15.0
<p><i>An individual prescription, according to which SHE must describe and manufacture a homeopathic medicinal product;</i></p> <ul style="list-style-type: none"> • issued a prescription without errors according to the current one; • gave an incomplete description of the medicinal product; • prepared his workplace with errors (for example, irrationally selected dishes, etc.); • performed calculations on the reverse side of the PWC without errors; • correctly prepared the medicinal product with minor errors in compliance with the pharmaceutical order and sanitary regime in his workplace (for example, he did not wipe the scales before work, etc.); • packaged and issued a medicinal product with minor errors (carelessly pasted labels or signature, etc.); <p>handed over the prepared medicinal product with the necessary documentation (prescription and PWC) to the teacher for verification.</p> <p><i>Calculation tasks</i></p> <ul style="list-style-type: none"> • Correctly solved calculation problems without explaining the sequence of actions 	12.0-14.0
<p><i>An individual prescription, according to which SHE must describe and manufacture a homeopathic medicinal product;</i></p>	11.0–12.0

<ul style="list-style-type: none"> • mistakes were made when writing a prescription according to the current ND; • gave a description of the medicinal product that does not reflect the characteristics of the medicinal product; • prepared his workplace with errors (for example, irrationally selected dishes, etc.); • performed calculations on the reverse side of the PWC without errors; • correctly prepared the medicinal product, but the technology is irrational and without theoretical justification; • made mistakes in compliance with the pharmaceutical order and sanitary regime in his workplace (for example, did not wipe the scales before work, etc.); • packaged and processed a medicinal product with errors before release (the technological order of the ingredients in the PWC was not met, not all labels were pasted, etc.); • submitted the prepared medicinal product with the necessary documentation (prescription and passport of written control) to the teacher for verification. <p>Calculation tasks</p> <ul style="list-style-type: none"> • Solved one of the two calculation problems incompletely without explaining the sequence of actions 	
<p><i>An individual prescription, according to which SHE must describe and manufacture a homeopathic medicinal product;</i></p> <ul style="list-style-type: none"> • mistakes were made when writing a prescription according to the current ND; • did not give a description of the medicinal product; • prepared his workplace with errors (for example, irrationally selected dishes, etc.); • performed calculations on the reverse side of the PWC without errors; • correctly prepared the medicinal product, but the technology is irrational and without theoretical justification; • made mistakes in compliance with the pharmaceutical order and sanitary regime in his workplace (for example, did not wipe the scales before work, etc.); • packaged and processed a medicinal product with errors before release (the technological order of the ingredients in the PWC was not met, not all labels were pasted, etc.); • submitted the prepared medicinal product with the necessary documentation (prescription and passport of written control) to the teacher for verification. <p>Calculation tasks</p> <ul style="list-style-type: none"> • Solved one of the two calculation problems incompletely without explaining the sequence of actions 	10.0–11.0
<p><i>An individual prescription, according to which SHE must describe and manufacture a homeopathic medicinal product;</i></p> <ul style="list-style-type: none"> • made gross mistakes when writing a prescription; • did not give a description of the medicinal product; • prepared his workplace with errors; • calculations on the reverse side of the PWC are made with errors; • chose the wrong drug technology and did not provide its theoretical justification. <p>Calculation tasks</p> <ul style="list-style-type: none"> • Did not solve any of the proposed calculation problems 	Less 10

The sum of points for the study of CM is the sum of the points received by the student during the study of all topics of the content module.

The semester assessment is conducted by summarizing the module study results, increasing the rating if desired and filling out the reporting documentation.

The evaluation of the student's success in the discipline is a rating, is presented on a one-point scale and is defined according to the ECTS system and the traditional scale adopted in Ukraine.

2. Forms of current and final control of study success.

Evaluation of the current educational activity (carried out during each class) - test control, control of theoretical knowledge (survey), control of practical skills and abilities. When mastering each topic of the

content modules for the current educational activity of the SHE, points are awarded for all types of activities, which are summed up at the end of studying the content module.

Control of mastering content modules is carried out in the last classes of studying the topics of content modules. The means of diagnosing students' knowledge are test control with the help of a computer program, the solution of calculation problems and the manufacture of a homeopathic medicinal product according to an individual prescription.

Semester control is carried out in the form of a semester credit in the last classes.

2. Methodological support

1. Working program
2. Calendar plan of lectures and practical classes
3. Textbook
4. Teaching aids
5. Electronic study guide
6. Distance course
7. Multimedia texts of lectures
8. Video films
9. Methodological recommendations for the classroom work of higher education institutions
10. Methodological recommendations for independent and non-auditory work of higher education institutions
11. Methodological recommendations for preparation for the final modular control.
12. Methodological support for knowledge control of higher education institutions (control tasks and tests), their evaluation criteria, standards of answers:
 - Tickets for monitoring the learning of content modules;
 - Tickets to КМС
13. Educational equipment, technical teaching aids

14. Reading suggestions

The main reading suggestions

1. Гомеопатична фармація і медицина. Глосарій термінів та визначень: навч. посібник / Вишневська Л.І. та ін. / Х., Вид-во НФаУ, 2017 р. – 437 с.
2. Вишневська Л.І., Ромась К.П. Екстемпоральні гомеопатичні препарати для лікування нікотинової залежності: перспективи створення. «Доказова гомеопатія»: збірник доповідей VIII з'їзду гомеопатів України, присвяченого 120-річчю дня народження засновника Київської гомеопатичної школи Д. В. Попова (13-14 листопада 2019 р.). Київ: «Гомеопатія від Попових», 2019. С. 83-85.
3. Державна Фармакопея України : в 3 т. / ДП «Український науковий фармако-пейний центр якості лікарських засобів». – 2-е вид. – Х. : ДП «Український науковий фармакопейний центр якості лікарських засобів», 2014. Т. 3. 732 с.
4. Ernst E. Homeopathy: what does the "best" evidence tell us? Medical Journal of Australia. 2019. Vol. 192. P. 458-460.

Supplementary reading suggestions

1. Державна фармакопея України / ДП «Український науковий фармакопейний центр якості лікарських засобів». 1-е вид. Харків : Державне підприємство "Український науковий фармакопейний центр якості лікарських засобів", 2014. Т. 2. 724 с.
2. Державна Фармакопея України / ДП «Український науковий фармакопейний центр якості лікарських засобів». 2-е вид. Харків : Державне підприємство «Український науковий фармакопейний центр якості лікарських засобів», 2015. Т. 3. 732 с.
3. Державна Фармакопея України / ДП «Український науковий фармакопейний центр якості лікарських засобів» 2-е вид. Харків : Державне підприємство «Український науковий фармакопейний центр якості лікарських засобів». 2015. Т. 1. 1128 с.
4. Dysmenorrhea and endometriosis in the adolescent. –AGOG Committee Opinion № 760 // American College of Obstetricians and Gynecologists. J. Obstet. Gynecol. 2018. 132. P. 249-258.

15. Electronic resources, including the Internet

1. Державний реєстр лікарських засобів України. – [Електронний ресурс]. – Режим доступу: <http://www.drlz.com.ua/> – станом на 10.08.2023 р.

2. atl.nuph.edu.ua - сайт кафедри аптечної технології ліків
3. Наукова бібліотека НФаУ: Режим доступу : <http://dspace.ukrfa.kharkov.ua>; <http://lib.nuph.edu.ua>
4. www.moz.gov.ua – офіційний сайт Міністерства охорони здоров'я України
5. nuph.edu.ua – офіційний сайт Національного фармацевтичного університету
6. library@nuph.edu.ua – сайт бібліотеки НФаУ
7. Сайт дистанційного навчання НФаУ : сторінка кафедри АТЛ – [Електронний ресурс]. – Режим доступу: <http://pharmel.kharkiv.edu/moodle/course/>
8. Компендіум: лікарські препарати. – [Електронний ресурс]. – Режим доступу: <http://compendium.com.ua/> – станом на 10.08.2023 р.
9. Державний реєстр лікарських засобів України. – [Електронний ресурс]. – Режим доступу: <http://www.drlz.com.ua/> – станом на 10.08.2023 р.