

MINISTRY OF HEALTH OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Department of Pharmaceutical Chemistry and Drug Technology

APPROVED

Vice-rector for scientific and pedagogical work

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September 1st, 2024



**WORKING PROGRAM IN THE DISCIPLINE
«PRODUCTION AND USE OF COSMETIC PREPARATIONS»**

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

Field of knowledge: 22 «Health care»

Specialty: 226 «Pharmacy, industrial pharmacy»

Educational and professional program: Pharmacy, industrial pharmacy

The working program is based on the educational and professional program "Pharmacy, industrial pharmacy" for the training of specialists of the second (master's) level of higher education in the specialty 226 "Pharmacy, industrial pharmacy" of the field of knowledge 22 "Health care", approved by the Scientific Council of ONMedU (protocol no. 10 of June 27, 2024).

Developers:

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The work program was approved at the meeting of the Department of Pharmaceutical Chemistry and Drug Technology

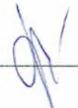
Protocol No. 1 dated August 29, 2024.

Head of the department  Volodymyr GELMBOLDT

Agreed with the EPP guarantor  Liana UNHURIAN

Approved by the subject cycle methodical commission for pharmaceutical disciplines of ONMedU
Protocol No. 1 dated August 30, 2024

Head of the subject cycle methodical commission for pharmaceutical disciplines of ONMedU

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Reviewed and approved at the department meeting _____

Protocol № ___ from “___” _____ 20__.

Head of the department _____
(signature) (First name Surname)

Reviewed and approved at the department meeting _____

Protocol № ___ from “___” _____ 20__.

Head of the department _____
(signature) (First name Surname)

1. Description of the academic discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
Total number:	Field of knowledge 22 "Health care"	<i>Full-time education</i>
Credits: 3	Specialty 226 "Pharmacy, industrial pharmacy"	<i>Elective discipline</i>
Hours: 90		<i>Year of preparation: 4</i>
Content modules: 1	Level of higher education second (master's)	<i>Semesters VII</i>
		<i>Lectures (0 h.)</i>
		<i>Practical (30 h.)</i>
		<i>Independent work (60 h.)</i>
		<i>The form of final control is credit</i>

2. The purpose and tasks of the educational discipline

Goal: formation of the acquirers of theoretical knowledge and practical skills regarding the composition, manufacture and quality control of the main groups of products in the perfumery and cosmetic industry, providing future specialists with the opportunity to perform their functional duties in a high-quality manner, providing multi-faceted advisory assistance to the population regarding the use of cosmetic products with different directions of action.

Tasks:

1. assimilation and analysis of the requirements of current regulatory documentation (State Pharmacopoeia of Ukraine, GMP, DSanPiN 2.2.7.029-99, "Technical Regulations for Cosmetic Products", instructions and orders of the Ministry of Health) for the organization of production activities and the sale of medical cosmetics and cosmetic products of various forms of release;
2. familiarization with the organization of the production of medical cosmetics in the conditions of pharmaceutical enterprises, in accordance with the requirements of Good Manufacturing Practice (GMP);
3. the use in professional activity of regulatory and legislative acts of Ukraine, the requirements of good manufacturing practice (GMP) and the implementation of international legal norms regarding the manufacture of medical cosmetics by extemporaneous (pharmacy) and industrial methods;
4. formation of basic knowledge in students of higher medical education related to: theoretical foundations of manufacturing and appropriate use of various types of medicinal and cosmetic forms.
5. understanding the stages of step-by-step control and ways of improving the technology of medicinal cosmetic forms under the conditions of extemporaneous (pharmacy) and industrial production;
6. studying the influence of storage conditions and the type of packaging on the stability of medical cosmetics;
7. study of equipment and devices used as part of technological schemes in the process of manufacturing medical cosmetics.

The process of studying the discipline is aimed at forming elements of the following competencies:

General competencies (GC):

- GC 01. Ability to think abstractly, analyze and synthesize, learn and be modernly trained.
- GC 02. Knowledge and understanding of the subject area and understanding of professional activity.
- GC 03. Ability to communicate in the national language both orally and in writing.

- GC 04. The ability to communicate in a foreign language (mainly English) at a level that ensures effective professional activity.
- GC 05. The ability to evaluate and ensure the quality of the work performed.
- GC 06. Ability to work in a team.
- GC 10. The ability to act socially responsibly and consciously.
- GC 11. Ability to apply knowledge in practical situations.
- GC 12. The desire to preserve the environment.
- GC 13. Ability to show initiative and entrepreneurship.
- GC 14. Ability to adapt and act in a new situation.
- GC 15. Knowledge and understanding of the subject area and understanding of professional activity.
- GC 16. The ability to conduct experimental research at the appropriate level.

Professional competencies (PC):

- PC 01. Ability to integrate knowledge and solve complex pharmacy problems in broad or multidisciplinary contexts.
- PC 02. Ability to collect, interpret and apply data necessary for professional activity, research and implementation of innovative projects in the field of pharmacy.
- PC 08. The ability to consult on prescription and non-prescription drugs and other products of the pharmacy assortment; pharmaceutical care during the selection and sale of medicinal products of natural and synthetic origin by assessing the risk/benefit ratio, compatibility, taking into account biopharmaceutical, pharmacokinetic, pharmacodynamic and physicochemical and chemical features, indications/contraindications for use guided by data on the health status of a specific patient.
- PC 12. Ability to ensure proper storage of natural and synthetic medicinal products and other pharmacy products in accordance with their physicochemical properties and Good Storage Practice (GSP) rules in healthcare facilities.
- PC 16. 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 the requirements (orders) of medical and preventive institutions, including the justification of technology and the selection of auxiliary materials in accordance with the rules of Good Pharmacy Practice (GPP).
- PC 17. The ability to carry out pharmaceutical development and participate in the production of medicinal products of natural and synthetic origin in the conditions of pharmaceutical enterprises in accordance with the requirements of Good Manufacturing Practice (GMP).
- PC 24. Ability to use knowledge of regulatory and legislative acts of Ukraine and recommendations of proper pharmaceutical practices in professional activities.
- PC 25. The ability to demonstrate and apply in practical activities communicative communication skills, fundamental principles of pharmaceutical ethics and deontology, based on moral obligations and values, ethical standards of professional behavior and responsibility in accordance with the Code of Ethics of Pharmaceutical Workers of Ukraine and WHO guidelines.
- PC 26. The ability to organize and participate in the production of medicinal products in the conditions of pharmaceutical enterprises, in particular the selection and justification of the technological process, equipment in accordance with the requirements of Good Manufacturing Practice (GMP) with the appropriate development and execution of the necessary documentation. Determine the stability of medicines.

Program learning outcomes (PLO):

- PLO 01. Have and apply specialized conceptual knowledge in the field of pharmacy and related fields, taking into account modern scientific achievements.
- PLO 03. Have specialized knowledge and skills/skills for solving professional problems and tasks, including for the purpose of further development of knowledge and procedures in the field of pharmacy.

- PLO 04. Communicate freely in the national and English languages orally and in writing to discuss professional problems and results of activities, presentation of scientific research and innovative projects.
- PLO 07. Collect the necessary information on the development and production of medicinal products, using professional literature, patents, databases and other sources; systematize, analyze and evaluate it, in particular, using statistical analysis.
- PLO 19. Develop technological documentation for the manufacture of medicinal products, choose a rational technology, manufacture medicinal products in various dosage forms according to the prescriptions of doctors and the requirements (orders) of medical and preventive institutions, prepare them for release.
- PLO 20 – Carry out pharmaceutical development of medicinal products of natural and synthetic origin in the conditions of industrial production.
- PLO 25. Observe the norms of the sanitary and hygienic regime and the requirements of safety equipment when carrying out professional activities.
- PLO 27. To perform professional activities using creative methods and approaches.
- PLO 30. Adhere to the norms of communication in professional interaction with colleagues, management, consumers, work effectively in a team.
- PLO 36. Plan and implement professional activities on the basis of normative legal acts of Ukraine and recommendations of proper pharmaceutical practices.
- PLO 38. To substantiate the technology and organize the production of medicinal products at pharmaceutical enterprises and draw up technological documentation for the production of medicinal products at pharmaceutical enterprises.
- PLO 43. To organize the necessary level of individual safety (own and the persons he cares for) in the event of typical dangerous situations in the individual field of activity.

As a result of studying the academic discipline, the student of higher education should:
to know:

1. Classification, nomenclature, mechanism and types of action of cosmetic products of hygienic, therapeutic and preventive and decorative effect;
2. Prepare various types of cosmetics taking into account the physico-chemical properties of medicinal substances and the nature of auxiliary substances;
3. Equipment and means of small mechanization in the technology of cosmetic forms;
4. Know the conditions for proper storage of medicines and other products of the pharmacy assortment in accordance with their physical and chemical properties and the rules of Good Storage Practice (GSP) in health care institutions;
5. To know the technology of medicinal products of industrial production; requirements of GMP and other proper pharmaceutical practices for the production of finished medicinal products.

be able to:

1. in accordance with the requirements of technical and regulatory documentation, using the necessary equipment in order to choose the most optimal technology, classify and characterize medicinal and cosmetic forms by types of dispersion systems, method of use, destination, aggregate state, taking into account the physical and chemical properties of active and auxiliary substances;
2. prepare a variety of medicinal and cosmetic forms of extemporaneous and medicinal forms of industrial production (list 3) from medicinal and auxiliary substances;
3. Based on the data of reference pharmacological literature and accompanying documentation: conduct a comparative characterization of medicinal products in accordance with list 1b, taking into account the chemical structure, mechanism of action and pharmacological properties in order to determine the advantages and disadvantages of individual drugs;
4. According to the technological rules and requirements of regulatory documentation, choose the optimal technology for the production of perfume, cosmetic and medicinal forms (list 3 and 5), using the necessary devices, equipment, main and auxiliary substances, taking into account the

type of system, physico-chemical, technological, biopharmaceutical properties of the main and auxiliary substances;

- Determination of the main quality indicators of perfumery and cosmetic products using the necessary equipment and the requirements of analytical and regulatory documentation.

3. Content of the academic discipline

Topic 1. Normative documentation regulating the procedure for development, construction, presentation, design, approval, approval and registration of NTD of cosmetic preparations.

Topic 2. Classification and nomenclature of medicated cosmetic preparations. Types of action of medicated cosmetic preparations.

Topic 3. Stages of creation of new perfumery and cosmetic products. Cosmetic efficiency of active substances.

Topic 4. Therapeutic - preventive cosmetic care.

Topic 5. Forms and methods of application of medicated cosmetic preparations.

Topic 6. Equipment of perfumery and cosmetic industries.

Topic 7. The main and auxiliary equipment for the production of solid cosmetics.

Topic 8. Main and auxiliary equipment in the production of soft cosmetic forms.

Topic 9. Basic and auxiliary equipment in the production of perfumery and cosmetic products.

Topic 10. Methods of determining quality indicators of medical and cosmetic products. Containers and packaging of medical and cosmetic products.

4. The structure of the academic discipline

Names of topics	Number of hours of full-time education			
	In total	including		
		Lectures	practical	IWS
Topic 1. Normative documentation regulating the procedure for development, construction, presentation, design, approval, approval and registration of NTD of cosmetic preparations.	8	0	2	6
Topic 2. Classification and nomenclature of medicated cosmetic preparations. Types of action of medicated cosmetic preparations.	8	0	2	6
Topic 3. Stages of creation of new perfumery and cosmetic products. Cosmetic efficiency of active substances.	12	0	6	6
Topic 4. Therapeutic - preventive cosmetic care.	8	0	2	6
Topic 5. Forms and methods of application of medicated cosmetic preparations.	10	0	4	6
Topic 6. Equipment of perfumery and cosmetic industries.	8	0	2	6
Topic 7. The main and auxiliary equipment for the production of solid cosmetics.	8	0	2	6
Topic 8. Main and auxiliary equipment in the production of soft cosmetic forms.	10	0	4	6
Topic 9. Basic and auxiliary equipment in the production of perfumery and cosmetic products.	10	0	4	6
Topic 10. Methods of determining quality indicators of medical and cosmetic products. Containers and packaging of medical and cosmetic products.	8	0	2	6
Total hours:	90	0	30	60

5. Topics of lectures / seminars / practical / laboratory lessons

5.1. Topics of lectures

Lecture lessons are not provided.

5.2. Topics of practical classes

№ i/o	Topic name	Number of hours
1	Normative documentation regulating the procedure for development, construction, presentation, registration, approval, approval and registration of NTD of cosmetic preparations.	2
2	Classification and nomenclature of medicated cosmetic preparations. Types of action of medicated cosmetic preparations.	2
3	Hardware schemes of cosmetic preparations. Requirements for the production of cosmetic products.	2
4	Excipients in the technology of cosmetics.	2
5	Stages of creation of new cosmetics. Safety indicators of cosmetic preparations.	2
6	Therapeutic - preventive cosmetic care.	2
7	Forms and methods of application of medicated cosmetic preparations.	2
8	Technological properties of cosmetic raw materials.	2
9	Basic and auxiliary equipment in the production of perfumery and cosmetic products.	2
10	Production of solid (powder and compact) cosmetics.	2
11	Production of cosmetic solutions.	2
12	Production of cosmetics based on suspensions, emulsions and combined systems.	2
13	Technological schemes for the production of cosmetic products.	2
14	Production of medical and cosmetic ointments on hydrophobic and hydrophilic bases	2
15	Conditions and terms of storage of cosmetic preparations. Improving the technology of cosmetic products.	2
<i>In total</i>		30

6. Independent work

№ i/o	Types of IWS	Number of hours
1	State regulation of the safety of cosmetic preparations.	6
2	Apparatus and equipment used in the technology of various cosmetic forms.	6
3	Dosage in the technology of cosmetic forms. Devices and devices for dosing.	6
4	Theoretical foundations of the production of cosmetic products.	6
5	Classification of cosmetic products by action. Classification of cosmetics by form (solutions, creams, masks, peelings, scrubs, serums, gels, etc.).	6
6	The principle of selection of auxiliary substances for the preparation of medicinal cosmetic preparations in the form of various dispersed systems	6
7	Determination of the ingredient of cosmetic products. Classification of ingredients of perfumery and cosmetic products. International nomenclature of cosmetic ingredients.	6
8	Prospective types of raw materials for cosmetics.	6
9	Solvents used in the technology of cosmetic preparations with a liquid dispersion medium.	6
10	Improvement of regulatory and technical support for testing and quality of cosmetic products.	6

7. Teaching methods.

Practical classes: conversation, solving situational problems, conducting control of knowledge, abilities and skills of higher education students, posing a general problem by the teacher and discussing it with the participation of higher education students, performing control tasks, their verification, evaluation. Performance of laboratory work, in which students of higher education, under the guidance of a teacher, conduct educational experiments in specially equipped educational laboratories using equipment adapted to the conditions of the educational process.

Independent work: independent work with recommended basic and additional literature, with electronic information resources, independent work with a bank of test tasks.

8. Forms of control and assessment methods

(Including criteria for evaluating learning outcomes)

Current control: testing, oral survey, problem solving.

Final control: credit.

1. Assessment of the current educational activity in a practical session:

1. Assessment of theoretical knowledge on the topic of the lesson:
 - methods: survey, testing, solving a situational problem
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
2. Assessment of practical skills on the subject of the lesson:
 - methods: assessment of the correctness of the performance of practical skills
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The grade for one practical lesson is the arithmetic average of all components and can only have an integer value (5, 4, 3, 2), which is rounded according to the statistical method.

Criteria for current assessment in a practical lesson

Assessment	Assessment criteria
«5»	The applicant actively participates in the discussion of the most difficult questions on the topic of the lesson, gives at least 90% correct answers to standardized test tasks, answers written tasks without errors, performs practical work and draws up a protocol.
«4»	The applicant participates in the discussion of the most difficult questions on the topic, gives at least 75% correct answers to standardized test tasks, makes some minor mistakes in the answers to written tasks, performs practical work and draws up a protocol.
«3»	The applicant participates in the discussion of the most difficult questions on the topic, gives at least 60% correct answers to standardized test tasks, makes significant mistakes in answers to written tasks, performs practical work and draws up a protocol.
«2»	The applicant does not participate in the discussion of complex questions on the topic, gives less than 60% correct answers to standardized test tasks, makes gross mistakes in answers to written tasks or does not give answers to them at all, does not perform practical work and does not draw up a protocol.

Only those applicants who have fulfilled the requirements of the training program in the discipline, have no academic debt, their average score for the current educational activity in the discipline is at least 3.00, and they have passed the test control based on the tests "STEP-2" are admitted to the final control in the form of an exam. - 2" at least 90% (50 tasks).

The test control is conducted in the Educational and Production Complex of Innovative Technologies of Learning, Informatization and Internal Monitoring of the Quality of Education of the University in the last class before the exam.

Assessment of the results of the students' training during the final control – exam.

Content of assessed activity	Scores
The answer to a theoretical question	2
The answer to a theoretical question	2
Solution of the calculation problem	1

Criteria for assessment the results of the students' training during final control - exam

Assessment	Assessment criteria
Perfectly «5»	The applicant worked systematically during the semester, showed during the exam versatile and in-depth knowledge of the program material, is able to successfully perform the tasks provided for in the program, mastered the content of the main and additional literature, realized the relationship of individual sections of the discipline, their importance for the future profession, showed creative abilities in understanding and using educational program material, demonstrated the ability to independently update and replenish knowledge; the level of competence is high (creative).
Good «4»	The applicant has demonstrated complete knowledge of the educational program material, successfully performs the tasks provided for by the program, has mastered the basic literature recommended by the program, has shown a sufficient level of knowledge in the discipline and is capable of their independent updating and renewal in the course of further education and professional activity; the level of competence is sufficient (constructive and variable).
Satisfactorily «3»	The applicant who has demonstrated knowledge of the main curriculum material in the amount necessary for further education and subsequent work in the profession, copes with the tasks provided for by the program, made some mistakes in the answers on the exam and when completing the exam tasks, but has the necessary knowledge to overcome the mistakes made mistakes under the guidance of a scientific and pedagogical worker; level of competence - average (reproductive).
Unsatisfactorily «2»	The applicant did not demonstrate sufficient knowledge of the main educational program material, made fundamental mistakes in the performance of tasks provided for by the program, cannot use the knowledge in further studies without the help of a teacher, did not manage to master the skills of independent work; the level of competence is low (receptive-productive).

9. Distribution of points received by higher education applicants

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

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Perfectly («5»)	185 – 200
Good («4»)	151 – 184
Satisfactorily («3»)	120 – 150
Unsatisfactorily («2»)	Less than 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in mastering the educational component. The conversion of a traditional assessment (average score for

an academic discipline) into a 200-point one is performed by the information and technical department of the University.

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

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

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

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

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

10. Methodical support:

- Working program of the academic discipline
- Syllabus of the academic discipline
- Textbooks:
- Multimedia presentations
- Situational tasks
- Methodical development of practical lessons
- Electronic bank of test tasks by subdivisions of the discipline.

11. Questions for final control

1. Cosmetics in different periods of history.
2. Skin structure. Skin functions.
3. Acid mantle of the skin.
4. Skin microbiota.
5. Protective systems of the skin. Skin immunity. Skin microbiome.
6. Features of male skin.
7. Racial features of the skin.
8. Hair structure.
9. Nails (structure).
10. Epidermal barrier.
11. Aging and photoaging.
12. Holistic principles in cosmetology.
13. Amino acids (structure, properties, use in cosmetics).
14. Peptides (structure, functions, application in cosmetics).

15. Proteins (classification, structure, structural proteins of the skin, application in cosmetics).
16. Fatty acids (classification, properties, functions of fatty acids in the skin, application in cosmetics).
17. Fats, oils, butters, waxes (properties, use in cosmetics).
18. Carbohydrates (classification, use in cosmetics).
19. Animal fats (properties, animal fats in cosmetics).
20. Vegetable fats - oils (structure, properties, application in cosmetics).
21. Waxes (structure, properties, natural waxes in cosmetics).
22. Substitutes for fats and oils - synthetic fats, oils, waxes (structure, use in cosmetics).
23. Hydrocarbons and higher carboxylic acids (classification, application in cosmetics).
24. Essential oils (general properties, chemical composition, application, characteristics of essential oils widely used in cosmetics).
25. Surface-active substances (classification, general properties, interaction with the epidermis).
26. Anionic, cationic, nonionic, amphoteric surfactants, solubilization and solubilizers.
27. Emulsifiers and emulsifying mixtures (emulsifiers for the "water/oil" system, emulsifiers for the "oil/water" system).
28. Pigments (classification, production methods, main characteristics, main properties).
29. Fillers, dyes, classification of dyes, color index.
30. Polymers (classification, natural polymers, polysaccharides, natural resins).
31. Polymers (classification, cellulose derivatives, synthetic polymers, elemental organic polymers – silicones).
32. Preservatives (classification, alcohol class preservatives, acid class preservatives and their derivatives).
33. Preservatives (classification, protein preservatives, carbohydrate preservatives, other preservatives, preservative mixtures).
34. Preservatives in organic cosmetics.
35. Photoprotective compounds (physical UV filters, chemical UV filters, antioxidants).
36. Skin whitening drugs (whitening drugs that reduce melanin synthesis; whitening drugs that exfoliate the stratum corneum).
37. Water and other solvents Water and methods of its purification. Solvents are low molecular weight alcohols.
38. Plant extracts (biologically active substances from plant extracts, obtaining plant extracts).
39. Plant extracts (types of extracts, extracts traditionally used in cosmetics, modern trends in the use of extracts in cosmetic compositions, exotic extracts).
40. Vitamins (fat-soluble vitamins, water-soluble vitamins, modern trends in the use of vitamins in cosmetics).
41. Human smell. Classification of odors. Basics of construction (principles of creation) of perfume compositions. The structure of a perfume fragrance. The process of maturation of perfume liquid. Functional perfumery.
42. Modern trends in fragrances. Technology of perfumes. Preparation of infusions of aromatic substances. Technology of perfume compositions. Quality control of perfume compositions and perfume liquids. Methods of testing perfume compositions and perfume liquids.
43. Soap: classification by purpose, release form, fatty acid content, production method, processing method.
44. Toilet soap intended for skin and hair care: classification, cosmetic effect and mechanism, physico-chemical properties, quality requirements, main stages of production technology, base cooking,
45. Production technology of soap powders.
46. Quality control of toilet soaps.
47. Cosmetic balms and rinses: definition. Classification, cosmetic effect and mechanism of action, characteristics of formulation components, quality control, test methods.

48. Cosmetic balms and rinses: 64. Cosmetic masks: definition, classification, cosmetic effect and mechanism of action, main components of the formulation, quality control, test methods.
49. Cosmetic scrubs: definition, classification, active and biologically active substances used in cosmetic scrubs, quality control, test methods.
50. Deodorant cosmetics: characteristics, classification, mechanism of action.
51. Antiperspirants: characteristics and mechanism of action.
52. Deodorant cosmetics in aerosol form: formulation and technology.
53. Toothpastes: definition, active, auxiliary and biologically active substances in the composition of toothpastes.
54. Classification of decorative cosmetics.
55. Powder, Lipsticks. Mascara, Eye shadows, Tonal creams, Cosmetic pencils: definition, classification, requirements, composition, technology.
56. Quality control of emulsion-based decorative cosmetic products, test methods.
57. Cosmetic means for changing hair color (hair dyes): classification, characteristics of the main groups of hair dyes, the mechanism of the coloring action, characteristics of the main components, quality assessment, test methods.
58. Cosmetic products for changing the shape of hair (chemical perm products): definition, composition, quality requirements, substances used to fix the curl, quality assessment of chemical perm products, test methods.
59. Cosmetic products for styling and fixing hairstyles (hairspray): definition, quality requirements, composition, technology, general characteristics, quality control, test methods.
60. Cosmetic products for nail care (nail polish): characteristics, classification and nomenclature of formulation components: definition, technology, quality control, test methods.

12. Recommended literature.

Basic:

1. Державна Фармакопея України / Державне підприємство «Український науковий фармакопейний центр якості лікарських засобів». — 2-е вид. — Доповнення 1. — Харків: Державне підприємство «Український науковий фармакопейний центр якості лікарських засобів», 2016. — 360 с.
2. Дерматологія і венерологія: підручник / В.І. Степаненко, А.І. Чоботарь, С.О. Бондарь та ін. — 2-е видання — К.: Всеукраїнське спеціалізоване видавництво «Медицина», 2020 . — 336 с.
3. Допоміжні речовини у виробництві ліків : навч. посібн. для студ. вищ. фармац. навч. закл. / О.А. Рубан, І.М. Перцев, С.А. Куценко, Ю.С. Маслій; за ред. І.М. Перцева. — Х.: Золоті сторінки, 2016. — 720 с.
4. Інноваційні технології і дизайн парфумерно-косметичних продуктів: навчальний посібник / Іванова Л.О., Шарахматова Т.Є., Іваненко Є.В. — Тернопіль: Тернопільський національний технічний університет імені Івана Пулюя, 2018. — 140 с.
5. Технологія косметичних засобів: підручник для студ. вищ. навч. закладів / О.Г. Башура, О.І. Тихонов, В.В. Россіхін, І.І. Баранова, Л.С. Петровська, Т.В. Мартинюк, В.С. Казакова, О.С. Шпичак [та ін.]; за ред. О. Г. Башури і О. І. Тихонова. — Х.: НФаУ ; Оригінал, 2017. — 552 с.
6. Технологія парфумерно-косметичних продуктів: навчальний посібник /Л.В. Пешук, Л.І. Бавіка, І.М. Демідов. — К.: Центр учбової літератури, 2019. — 376 с.
7. Технологія та застосування лікувально-косметичних засобів. Навчальний посібник / О. В. Федорова, Р. О. Петріна, Н. Л. Заярнюк, В. В. Гавриляк, А. О. Милянчич, В. П. Новіков. Львів : Видавництво Львівської політехніки, 2019. 244 с.
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