

**MINISTRY OF HEALTH OF UKRAINE**  
**ODESA NATIONAL MEDICAL UNIVERSITY**

**Department of drug technology**

**APPROVED**

Vice-rector for scientific and pedagogical work

  
Eduard BURYACHKIVSKY

September 1st, 2024



**WORKING PROGRAM OF EDUCATIONAL DISCIPLINE**  
**" TECHNOLOGY OF MEDICINAL COSMETICS "**

**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


2024

The working program is compiled on the basis of 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 Academic Council of ONMedU (protocol no. 10 of June 27, 2024).


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The working program is approved at the meeting of Department of Pharmaceutical Chemistry and Drug Technology  
Protocol No. 1 dated August 29, 2024

Head of the department


 Volodymyr GELMBOLDT

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the educational and professional program

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

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 Natali FIZOR

Reviewed and approved at the meeting of the department \_\_\_\_\_  
Protocol No. \_\_\_ of "\_\_\_" \_\_\_\_\_ 20\_\_

Head of Department \_\_\_\_\_

Reviewed and approved at the meeting of the department \_\_\_\_\_  
Protocol No. \_\_\_ of "\_\_\_" \_\_\_\_\_ 20\_\_

Head of Department \_\_\_\_\_

## 1. Description of the academic discipline:

| Name of indicators  | Field of knowledge, specialty, specialization, level of higher education | Characteristics of the discipline  |
|---|--|------------------------------------|
| The total number of:<br><br>Credits: 3<br><br>Hours: 90<br><br>Content modules: 1 | Field of knowledge<br>22 «Health care»                                   | <i>Full-time education</i>         |
|   |  | <i>Elective discipline</i>         |
|   | Specialty<br>226 « Pharmacy, industrial pharmacy »                       | <i>Year of training: 5</i>         |
|   |  | <i>Semester IX</i>                 |
|   |  | <i>Lectures (0 hours)</i>          |
|   | Level of higher education second (master's degree)                       | <i>Practical (30 hours)</i>        |
|   |  | <i>Independent work (60 hours)</i> |
| <i>Final control form - credit</i>  |  |                                    |

## 2. The purpose and tasks of the educational discipline

**The purpose:** teaching students the theoretical foundations of cosmetic, therapeutic and cosmetic care of the skin and its appendages, the rules of applying cosmetic procedures, the use of cosmetic preparations depending on the type of skin, on cosmetic defects; compose and substantiate the recipe of perfumery and cosmetic products; choose and substantiate a rational method of production of perfumery and cosmetic products; practical skills in the production of cosmetic products, their quality control.

### Task:

1. master the provisions state settlement of issues production and sale of perfumery and cosmetic products;
2. learn the main approaches to the analysis of the recipes of cosmetic preparations that reveal hygienic, therapeutic and preventive and decorative effects;
3. study the market of medical cosmetic preparations;
4. to master the schemes of drawing up and implementing a rational technology of manufacturing and quality control of cosmetic preparations according to the requirements (NTD).

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

- GC 1. Ability to think abstractly, analyze and synthesize, learn and be modernly educated.
- GC 2. Knowledge and understanding of the subject area and understanding of professional activity.
- GC 3. Ability to communicate in the national language both orally and in writing.
- GC 4. The ability to communicate in a foreign language (mainly English) at a level that ensures effective professional activity.
- GC 5. The ability to evaluate and ensure the quality of the work performed.
- GC 6. 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. Efforts 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.
- *special (professional, subject):*
- PC 1. Ability to integrate knowledge and solve complex pharmacy problems in broad or multidisciplinary contexts.

- PC 2. The ability to collect, interpret and apply data necessary for professional activity, research and implementation of innovative projects in the field of pharmacy.
- PC 8. 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 particular patient.
- PC 12. Ability to ensure proper storage of medicinal products of natural and synthetic origin and other products of the pharmacy assortment in accordance with their physicochemical properties and the rules of Good Storage Practice (GSP) in healthcare facilities.
- PC 16. The ability to organize and carry out the production activities of pharmacies for the manufacture of drugs 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. 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 for the discipline (PLO):**

- PLO 1. Have and apply specialized conceptual knowledge in the field of pharmacy and related fields, taking into account modern scientific achievements.
- PLO 3. 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 4. 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 7. 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 treatment and prevention 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. Adhere to the norms of the sanitary and hygienic regime and the requirements of safety equipment when carrying out professional activities.
- PLO 27. 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 issues 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 case of typical dangerous situations in the individual field of activity.

**As a result of studying the academic discipline, the student of higher education must:**

***know:***

1. technology and organize the production of cosmetic drugs using the necessary equipment;
2. evaluate the quality and stability of semi-finished products and finished products. determine the influence of environmental factors: moisture, temperature, light, etc. on their stability;
3. GPP requirements, other proper pharmaceutical practices and regulatory documents (orders, instructions, etc.) regarding the development and manufacture of cosmetic products, requirements for containers, closures and packaging materials.

***be able:***

1. to carry out professional activities in social interaction based on humanistic and ethical principles; to identify future professional activity as socially significant for human health.
2. apply knowledge of general and professional disciplines in professional activities.
3. use the results of independent search, analysis and synthesis of information from various sources to solve typical tasks of professional activity.
4. argue information for decision-making, bear responsibility for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activity.
5. perform professional activities using creative methods and approaches.
6. to carry out professional activities using reference scientific literature, information technologies, "Information databases", navigation systems, Internet resources, software and other information and communication technologies.
7. to use methods of evaluating performance quality indicators; identify reserves for increasing labor efficiency.
8. objectively use advanced foreign experience of cosmetic manufacturers.

### **3. Content of the academic discipline**

**Topic 1.** Morphology and physiology of the skin and its appendages. Methods of determining skin types and other clinical characteristics. Cosmetic, medicinal and cosmetic skin care. Cosmetic preparations, their classification and characteristics.

**Topic 2.** Active and auxiliary substances that are included in medicinal cosmetics, their classification and characteristics. Medicinal plants and beekeeping products in cosmetology. Industrial production of perfumery and cosmetic products.

**Topic 3.** Skin care products. Lotions, cosmetics, tonics, their technology and quality assessment. Medicinal cosmetic preparations for the treatment of skin pathologies, their characteristics, technology, quality assessment.

**Topic 4.** Masks, cosmetic scrubs, their characteristics, technology, quality assessment. Medicinal cosmetic masks. Cosmetic creams, their characteristics and technology, storage, quality assessment. Medicinal cosmetic creams.

**Topic 5 .**Foaming cosmetic products. Soap cosmetics. Technology, quality assessment. Bath foams. Shower gels. Technology, quality assessment. Medicinal detergents.

**Topic 6.** Hair care products. Shampoos, their technology, storage, quality assessment. Further hair care products (balms), technology, storage, quality assessment. Medicinal cosmetics for diseases of the scalp.

**Topic 7.** Deodorant cosmetics, characteristics, technology and quality assessment. Nail care products. Medicinal cosmetics for nail diseases. Cosmetic preparations for the care of the oral cavity and teeth. Technology. Quality assessment, storage conditions.

**Topic 8.** Means of decorative cosmetics, their characteristics, technology, quality assessment. Decorative hair care cosmetics.

**Topic 9.** Aromatic compositions for skin care, for the prevention and treatment of skin pathologies. Aromatic compositions for hair care, for the treatment of hair pathologies. Technology of perfumes, storage terms and conditions, quality assessment.

#### 4. The structure of the academic discipline

| Topic  | Number of hours |           |          |    |
|--|-----------------|-----------|----------|----|
|  | Total           | Including |          |    |
|  |                 | Lectures  | Practice | IW |
| <b>Topic 1.</b> Morphology and physiology of the skin and its appendages. Methods of determining skin types and other clinical characteristics. Cosmetic, medicinal and cosmetic skin care. Cosmetic preparations, their classification and characteristics.             | 8               | 0         | 2        | 6  |
| <b>Topic 2.</b> Active and auxiliary substances that are included in medicinal cosmetics, their classification and characteristics. Medicinal plants and beekeeping products in cosmetology. Industrial production of perfumery and cosmetic products.                   | 10              | 0         | 4        | 6  |
| <b>Topic 3.</b> Skin care products. Lotions, cosmetics, tonics, their technology and quality assessment. Medicinal cosmetic preparations for the treatment of skin pathologies, their characteristics, technology, quality assessment.                                   | 10              | 0         | 4        | 6  |
| <b>Topic 4.</b> Masks, cosmetic scrubs, their characteristics, technology, quality assessment. Medicinal cosmetic masks. Cosmetic creams, their characteristics and technology, storage, quality assessment. Medicinal cosmetic creams.                                  | 9               | 0         | 2        | 7  |
| <b>Topic 5.</b> Foaming cosmetic products. Soap cosmetics. Technology, quality assessment. Bath foams. Shower gels. Technology, quality assessment. Medicinal detergents.  | 11              | 0         | 4        | 7  |
| <b>Topic 6.</b> Hair care products. Shampoos, their technology, storage, quality assessment. Further hair care products (balms), technology, storage, quality assessment. Medicinal cosmetics for diseases of the scalp  | 11              | 0         | 4        | 7  |
| <b>Topic 7.</b> Deodorant cosmetics, characteristics, technology and quality assessment. Nail care products. Medicinal cosmetics for nail diseases. Cosmetic preparations for the care of the oral cavity and teeth. Technology. Quality assessment, storage conditions. | 11              | 0         | 4        | 7  |

|  |           |          |           |           |
|--|-----------|----------|-----------|-----------|
| <b>Topic 8.</b> Means of decorative cosmetics, their characteristics, technology, quality assessment. Decorative hair care cosmetics.  | 9         | 0        | 2         | 7         |
| <b>Topic 9.</b> Aromatic compositions for skin care, for the prevention and treatment of skin pathologies. Aromatic compositions for hair care, for the treatment of hair pathologies. Technology of perfumes, storage terms and conditions, quality assessment. | 11        | 0        | 4         | 7         |
| <b>Total</b>   | <b>90</b> | <b>0</b> | <b>30</b> | <b>60</b> |

## 5. Topics of lectures / seminars / practical / laboratory classes

### 5.1. Topics of lectures

Not provided for in the curriculum.

### 5.2. Topics of practical classes

| No.          | Topic  | Hours     |
|--------------|--|-----------|
| 1            | Morphology and physiology of the skin and its appendages. Methods of determining skin types and other clinical characteristics. Cosmetic, medicinal and cosmetic skin care. Cosmetic preparations, their classification and characteristics  | 2         |
| 2            | Active and auxiliary substances that are included in medicinal cosmetics, their classification and characteristics. Medicinal plants and beekeeping products in cosmetology. Industrial production of perfumery and cosmetic products.   | 4         |
| 3            | Skin care products. Lotions, cosmetics, tonics, their technology and quality assessment. Medicinal cosmetic preparations for the treatment of skin pathologies, their characteristics, technology, quality assessment  | 4         |
| 4            | Masks, cosmetic scrubs, their characteristics, technology, quality assessment. Medicinal cosmetic masks. Cosmetic creams, their characteristics and technology, storage, quality assessment. Medicinal cosmetic creams   | 2         |
| 5            | Foaming cosmetic products. Soap cosmetics. Technology, quality assessment. Bath foams. Shower gels. Technology, quality assessment. Medicinal detergents.  | 4         |
| 6            | Hair care products. Shampoos, their technology, storage, quality assessment. Further hair care products (balms), technology, storage, quality assessment. Medicinal cosmetics for diseases of the scalp.   | 4         |
| 7            | Deodorant cosmetics, characteristics, technology and quality assessment. Nail care products. Medicinal cosmetics for nail diseases. Cosmetic preparations for the care of the oral cavity and teeth. Technology. Quality assessment, storage conditions.   | 4         |
| 8            | Means of decorative cosmetics, their characteristics, technology, quality assessment. Decorative hair care cosmetics.  | 2         |
| 9            | Aromatic compositions for skin care, for the prevention and treatment of skin pathologies. Aromatic compositions for hair care, for the treatment of hair pathologies. Technology of perfumes, storage terms and conditions, quality assessment. Final control work. Assessment of practical skills. | 4         |
| <b>Total</b> |  | <b>30</b> |

## 6. Independent work

| No | Types of IW                       | Hours     |
|----|-----------------------------------|-----------|
| 1  | Preparation for practical classes | 60        |
|    | <b>Hours in general</b>           | <b>60</b> |

## 7. Teaching methods.

**Lectures:** multimedia lectures with elements of discussion communication with students of higher education.

**Practical training:** conversation, solving situational tasks, demonstration and practice of manipulation skills (including demonstration films, visual equipment, means of small mechanization, operations and processes of manufacturing drugs in the conditions of a pharmacy and an industrial enterprise, practicing practical skills using pharmacy and industrial equipment.

**Independent work:** independent work with the textbook, independent work with the bank of test tasks, independent solution of situational tasks.

## 8. Forms of control and evaluation methods

(including criteria for evaluating learning outcomes)

**Current control:** oral survey, testing, assessment of performance of practical skills, task solving.

**Final control:** credit

**Evaluation of the current educational activity in a practical session:**

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

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

### Current evaluation criteria in practical training

| Rating | Evaluation criteria   |
|--------|---|
| "5"    | The student takes an active part in discussing the most difficult questions on the topic of the class, gives at least 90% correct answers to standardized test tasks, answers written tasks without errors, performs practical work and has issues a protocol.  |
| "4"    | The student 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 issues a protocol.   |
| "3"    | The student 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 issues a protocol.  |
| "2"    | The student 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 issues a report. |

Credit is given to the student who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Credit is carried out: at the last lesson before the beginning of the examination session - with the tape system of learning, at the last lesson - with the cycle system of learning. The credit score is



the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded using the statistical method with two decimal places after the decimal point.

### 9. Distribution of points received by students of higher education

The obtained average score for the academic discipline for students who have 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**

| <b>Traditional four-point scale</b> | <b>Multipoint 200-point scale</b> |
|-------------------------------------|-----------------------------------|
| Excellent ("5")                     | 185 - 200                         |
| Good ("4")                          | 151 - 184                         |
| Satisfactory ("3")                  | 120-150                           |
| Unsatisfactory ("2")                | Below 120                         |

A multi-point scale (200-point scale) characterizes the actual success of each student in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade 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 students are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the students' 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 an "excellent" 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 assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Students who study in 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**

| <b>Evaluation on the ECTS scale</b> | <b>Statistical indicator</b> |
|-------------------------------------|------------------------------|
| A                                   | Top 10% students             |
| B                                   | The next 25% of students     |
| C                                   | The next 30% of students     |
| D                                   | The next 25% of students     |
| E                                   | The next 10% of students     |

### 10. Methodological support:

- Working program of the academic discipline
- Syllabus of the academic discipline
- Multimedia presentations
- Situational tasks
- Methodical development of practical classes
- Methodical recommendations for students on independent extracurricular work
- An electronic bank of test tasks by discipline topics

## 11. Questions for final control

1. The structure of the epidermis. Structural features and functions of the layers of the epidermis. Mitotic activity of basal epidermocytes. Factors affecting mitotic activity.
2. The structure of the dermis and hypodermis. Structural features and functions of these layers.
3. Sweat and sebaceous glands. Structure and functions.
4. Levels and ways of penetration of cosmetic preparations. Lipid barrier. Factors contributing to increased penetration of substances through the skin.
5. Normative documents regulating the production and sale of perfumery and cosmetic preparations. Definition. Categories. The structure and content of the sections of the technical conditions.
6. The procedure for obtaining a permit for the production and sale of perfumery and cosmetic preparations.
7. Certification: concept and procedure. The procedure for importing imported products into the territory of Ukraine. Sanitary and hygienic examination of perfumery and cosmetic products.
8. Cosmetic effect of individually prepared preparations. Features of the formulation and technology depending on the purpose and form of release.
9. Biologically active components in the formulation of cosmetic products. Classification. Cosmetic effect of BAV (on the example of vitamins and proteins).
10. Classification of drugs with foaming action and representatives. Cosmetic effect and mechanism of cleansing action of foaming cosmetic preparations.
11. Classification, functional purpose and features of the cosmetic action of surface-active substances (surfactants). Field of use in cosmetology.
12. Shampoos: definition, classification, cosmetic effect. Active and auxiliary components of the formulation. Their characteristics and recommended concentration.
13. Quality control of shampoos according to NTD requirements.
14. Definition, classification and cosmetic effect of rinses and balms. Formulation of rinses and hair balms for different types of hair, taking into account the direction of action.
15. Technological stages of production of balms and rinses. Quality control of balms and rinses according to NTD requirements.
16. Definition, classification and cosmetic effect of toilet soap. Characteristics of raw materials used in the production of solid toilet soap.
17. The technology of toilet soap in solid form.
18. Quality control of liquid toilet soap, according to NTD requirements.
19. Classification, cosmetic effect of cosmetic lotions. Characterization and concentration of the components of the recommended lotion formulation.
20. Technology and quality control of lotions and tonics.
21. Classification and characteristics of dental elixir formulation components. Technology and quality indicators of dental elixirs.
22. Components of the liquid formulation for removing varnish. Technology and quality indicators.
23. Cosmetic creams: classification, cosmetic effect, features and benefits of action on the skin. Technological methods of stabilization of emulsion-based cosmetic creams.
24. Formulation requirements, characteristics of ingredients of cosmetic creams based on emulsions of the 1st kind.
25. Formulation requirements, characteristics of ingredients of cosmetic creams based on type 2 emulsions.
26. Technology of oil-in-water cosmetic emulsions.
27. Technology of water-in-oil cosmetic emulsions.
28. Quality indicators of cosmetic creams on an emulsion basis (water in oil) of a thick consistency.
29. Quality indicators of cosmetic creams on an emulsion basis (oil in water)
30. Characteristics of the formulation of fat-based cosmetic creams. Cosmetic effect, features of use. Technology of preparation of fatty creams.

31. The cosmetic effect of suspension-based cosmetic creams depends on the fillers used. Characterization of the components of the formulation of cosmetic suspension-based creams. Technology of suspension creams.
32. Cosmetic effect, classification and representatives of cosmetic preparations for skin care. Lipstick: classification and cosmetic effect. Characteristics of the formulation components, recommended concentration.
33. Nail polish: classification and requirements. Characteristics of the formulation components, recommended concentration.
34. Technology and quality indicators of nail polish.
35. Preparations for chemical curling. The mechanism of hair shape change under the influence of chemical curling. Characteristics of the formulation components, recommended concentration.
36. Hair dyes: classification and requirements. Classification and nomenclature of dyes. Mechanism of hair dyeing. Characteristics of the formulation components, recommended concentration.
37. Mascara: classification and requirements. The main components of the mascara formulation, the recommended concentration.
38. Technology and indicators of the quality of mascara for eyelashes. Technology and quality indicators of mascara in a creamy form of release.
39. Technology and indicators of the quality of lipsticks.
40. Powder: purpose, classification and requirements. Characteristics of components and recommended concentration.
41. Powder technology is powdery and compact.
42. Quality indicators of decorative cosmetics in powdered and compact form.
43. Tonal creams. General characteristics. Functional purpose, nomenclature and comparative characteristics of the main components of the formulation of tonal creams.
44. Quality control of emulsion-based make-up products.
45. Hair dye production technology.
46. Quality control of hair dyes, according to NTD.
47. Quality control of chemical hair perms, according to NTD.
48. Hair sprays: classification and cosmetic effect. Characteristics of the formulation components, recommended concentration.
49. Technology and quality control of hair varnishes.
50. Hair mousses and foams: classification and cosmetic effect. Characteristics of the formulation components, recommended concentration.
51. Technology and quality control of hair styling products.
52. Hair styling gels: classification and cosmetic effect. Characteristics of the formulation components, recommended concentration.
53. Technology and quality control of hair styling gels.
54. Classification and cosmetic effect of toothpastes. Characterization of the active and auxiliary substances of the formulation of toothpastes. The recommended concentration of the components of the composition.
55. Toothpaste technology.
56. Quality indicators of toothpastes according to NTD requirements.
57. Definition of the term "perfume". Classification of perfume products. Degrees of odors in perfumery. Classification of smells according to "Zhyvaudan".
58. Technology of perfume compositions and products. Indicators of the quality of perfumery products.
59. Classification of aromatic substances depending on the nature of origin. Characteristics of aromatic substances of synthetic and semi-synthetic origin.
60. Classification and characteristics of aromatic substances of natural origin. Classification and nomenclature of odor fixers.

## **12. Recommended literature.**

1. Sharma, Gaurav & Gadhiya, Jayesh & Dhanawat, Meenakshi. Textbook of Cosmetic Formulations. 2018
2. A-Z of Natural Cosmetic Formulation: The definitive beginners' guide to the essential terminology, theories and ingredient types needed to formulate professional cosmetic products / Gail Francombe. 2019. – 304 p.
3. Natural Skin Care and Cosmetic Formulation: How You Can Make Toners, Moisturizers, Body Butters, Lotions, Balms, Scrubs, Masks, Cleansers, Serums, Haircare Products, Cosmetics, and Perfumes. Kindle Edition. 2022. – 334 p.
4. Introduction to Cosmetic Formulation and Technology 2nd Edition / Gabliella Baki. 2023. – 832 p.
5. Skincare & Cosmetic Ingredients Dictionary & Workbook: How to Make Skincare Products, Skincare Ingredients Workbook, Formulation Secrets & Lecture ... Skin Masters Program) / Teo Wan Lin. 2023. – 594 p.

## **13. Information resources**

1. Офіційний сайт Міністерства охорони здоров'я України: [www.moz.gov.ua](http://www.moz.gov.ua).
2. Компендиум: лекарственные препараты: – [Електроний ресурс]. – Режим доступу: <http://compendium.com.ua/>.
3. Щотижневик Аптека: <https://www.apteka.ua/>.