

**MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
DEPARTMENT OF PHARMACEUTICAL CHEMISTRY AND DRUGS
TECHNOLOGY**

APPROVE

Vice-rector for scientific and pedagogical work

_____ Eduard BURIACHKIVSKYI

«04» September 2023

**METHODOLOGICAL DEVELOPMENT OF INDEPENDENT WORK OF
STUDENTS (IWS)**

**IN THE EDUCATIONAL DISCIPLINE «COSMETICS IN THE PHARMACY
ASSORTMENT»**

Faculty Pharmaceutical Course 2

Educational discipline «Cosmetics in the pharmacy assortment»
(name of academic discipline)

Approved:

Meeting of the Department of pharmaceutical chemistry and drug technology

Odessa National Medical University

Protocol № 1 «04» September 2023

Head of the Department _____ (Volodymyr GELMBOLDT)
(signature) (name)

Developers:

PhD in pharmacy, docent Nataliya Fizer

IWS 1

Topic: «Cosmetology as a science. Standardization of the production and sale of cosmetic products in Ukraine and the world.» - 6 h.

Objective: know the definition of a cosmetic and medicinal cosmetic product and the differences between them, the classification of cosmetic products, orientate in the active and auxiliary substances included in the composition of cosmetic and medical cosmetic products, have a concept of modern trends in the development of the cosmetic industry and pharmaceutical care when dispensing medicinal cosmetics.

Basic concepts: cosmetic product, medicinal cosmetic product.

Plan

I. Theoretical questions for the lesson:

1. Trends in the development of the cosmetic industry and quality control of cosmetic products.
2. Normative provision of the cosmetic industry.
3. Classification of tests of cosmetic products.
4. The main problems of cosmetics consumers.
5. The concept of a cosmetic product.
6. Classification of medical cosmetics.
7. Active and auxiliary substances used in the production of therapeutic cosmetics.
8. Prospects for the development of the cosmetic industry

Questions for self-control

1. Types of normative documents. Definition. Categories. National Standards of Ukraine. Definition. Mandatory requirements of DEST, approval procedure.
2. Technical conditions. Definition, requirements for the development of technical specifications, constituent parts. Sanitary and hygienic examination of regulatory documentation. Examination procedure. The conclusion of the state sanitary and hygienic examination of regulatory documentation. Order of receipt.
3. Technological and technical regulations. Technological instructions. Definition. Structure.
4. Safety assessment of perfumery and cosmetic preparations.
5. Sanitary rules and safety norms of perfumery and cosmetic products. The procedure for conducting research.
6. The procedure for obtaining a permit for the production and sale of perfumery and cosmetic products. Documentation required. Certification.
7. The procedure for importing imported products into Ukraine. The current state and trends in the development of perfumery and cosmetic production abroad and in Ukraine.
8. Promising cosmetic products and forms.

Approximate tasks for the study of theoretical material

1. *Make a dictionary of basic concepts on the topic*

2. Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
cosmetic preparations	drugs that are used for the care of skin, nails, hair, oral cavity; hygienic, preventive and aesthetic functions are performed.	drugs that are used for the care of skin, nails, hair, oral cavity; hygienic, preventive and aesthetic functions are performed.
medical cosmetics	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.	the criterion that classifies them as medicinal products is the presence of individual substances or their combination used for therapeutic or prophylactic purposes, and the criterion that classifies them as cosmetic products is the presence of a cosmetic effect, but the first criterion is decisive.

II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.1. content of tasks

1. Define the terms cosmetics and medicated cosmetics. The difference between such concepts as cosmetics and medicated cosmetics, their meaning and characteristics.
2. Standardization of the production and sale of cosmetic products in Ukraine and the world.
3. Sanitary and hygienic examination of cosmetics.
4. Toxicological and hygienic indicators, safety standards and criteria for quality indicators of cosmetic products. Certification of cosmetic products.

III. Test tasks for self-control

Test tasks on this topic:

1. The technical conditions for the production of cosmetic products are:
 - A. Normative document that meets the mandatory requirements of the state standard
 - B. Regulatory document that regulates the relationship between the developer (supplier) and the consumer (customer) of products
 - C. Normative document regulating quality, safety indicators, methods of their control, inoculations of reception, transportation and storage of finished products
 - D. Normative and technical document that regulates the methods, means and standards of production

2. Indicate by which indicators the safety of perfumery and cosmetic products is evaluated:

- A. Clinical indicators
- B. Sanitary and chemical indicators
- C. Toxicological indicators
- D. Microbial contamination

3. In order to issue a hygienic opinion on imported perfumery and cosmetic products, it is necessary to have:

- A Results of sanitary and hygienic examination of products produced in the country of manufacture
- B. Certificate for a similar type of product manufactured in Ukraine
- C. Certificate of the producer of the country
- D. Results of sanitary and hygienic examination of products produced in Ukraine

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Cosmetology as a science. Standardization of the production and sale of cosmetic products in Ukraine and the world.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. – Вінниця: Нова книга, 2016. – 536 с.
3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. –Х.: Оригінал, 2014.-448 с.
4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. – Х. : Вид-во НФаУ, 2017. – 91 с.
5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І.

Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.

6.Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладишев, С. М. Мусоєв, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.

7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.

8.Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.

9.Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.

10.Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980

11.The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.

12.Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.

13.Дедишина Л. Косметевтика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29

14.Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 2

Topic: «Safety of use of cosmetic products and methods of its research.» - **6 h.**

Objective: get acquainted with the classification and nomenclature of pharmaceutical cosmetic products, the types of action of medicinal cosmetic products, get acquainted with

the anatomy, histology, physiology, biochemistry of the skin; anatomy and physiology of skin appendages (sweat and sebaceous glands, hair, nails), clinical characteristics of the main types of skin and methods of its determination; clinical characteristics of the skin according to the degree of elasticity, from the appearance of the relief, according to the level of blood supply and methods of their determination; cosmetology aspects of hair morphology and physiology, methods of determining hair type.

Basic concepts: skin, dermis, sweat glands, sebaceous glands, cosmeceuticals.

Plan

I. Theoretical questions for the lesson:

1. Trends in the development of the cosmetic industry and quality control of cosmetic products.
2. Normative provision of the cosmetic industry.
3. Classification of tests of cosmetic products.
4. The main problems of cosmetics consumers.
5. The concept of a cosmetic product.
6. Classification of medical cosmetics.
7. Active and auxiliary substances used in the production of therapeutic cosmetics.
8. Prospects for the development of the cosmetic industry.

Questions for self-control

1. Cosmetology as a science.
2. Anatomical and histological structure of the skin, its blood supply and innervation.
3. Anatomy, histology of skin appendages - sebaceous and sweat glands, hair, nails.
4. Biochemistry of the skin and its appendages.
5. Physiology of the skin and its appendages.
6. Clinical characteristics of the main types of facial skin.
7. Methods of determining skin type.
8. Clinical characteristics of the skin of the face according to the degree of elasticity and methods of its determination.
9. Clinical characteristics of the skin of the face from the appearance of relief and methods of its determination.
10. Clinical characteristics of the skin of the face with the level of blood supply and methods of its determination.
11. Cosmetological aspects of hair morphology and physiology.
12. Methods of determining hair type.

Approximate tasks for the study of theoretical material

3. *Make a dictionary of basic concepts on the topic*
4. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
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1	2	3
<i>Explore:</i>		
skin	the outer covering of the animal organism, which protects the body from a wide range of external influences, participates in breathing, thermoregulation, exchange and many other processes. In addition, the skin is a massive receptor field of various species.	The skin consists of epidermis, dermis and subcutaneous fat (hypodermis). The epidermis contains five layers of epidermal cells. The lowest layer is basal. It is located on the basement membrane and is 1 row of prismatic epithelium. Immediately above it lies the spiky layer (3-8 rows of cells with cytoplasmic outgrowths), followed by the granular layer (1-5 rows of flat cells), shiny (2-4 rows of anucleate cells, visible on the palms and feet) and the horny layer, consisting of a multi-layered keratinized epithelium. The epidermis also contains melanin, which colors the skin and causes the tanning effect. Dermis (dermis) - see Derma. Subcutaneous adipose tissue or hypodermis (hypodermis) consists of bundles of connective tissue and fat accumulations penetrated by blood vessels and nerve fibers. The physiological function of adipose tissue is to accumulate and store nutrients. In addition, it serves for thermoregulation and additional protection of the genitals.
Derma	or the skin itself, is a connective tissue and consists of 2 layers - the papillary layer, on which numerous outgrowths containing capillary loops and nerve endings are located, and the reticular layer, which contains blood and lymphatic vessels, nerve endings, follicles hair, glands, as well as elastic, collagen and smooth muscle fibers that give the skin	or the skin itself, is a connective tissue and consists of 2 layers - the papillary layer, on which numerous outgrowths containing capillary loops and nerve endings are located, and the reticular layer, which contains blood and lymphatic vessels, nerve endings, follicles hair, glands, as well as elastic, collagen and smooth muscle fibers that give the skin strength and elasticity.

	strength elasticity.	and	
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II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.2. content of tasks

Task 1. Determine skin type by visual method.

Task 2. Determine the type of skin using an oiliness test.

Task 3. Determine the degree of elasticity of the skin using a rotational compression test.

Task 4. To determine the degree of elasticity of the skin using a test for the formation of a skin fold.

Task 5. Determine the skin from the appearance of the relief by a visual method.

Task 6. Determine the skin with the level of blood supply by visual method.

Task 7. Determine the skin with the level of blood supply by diascopy method.

III. Test tasks for self-control

Test tasks on this topic:

1. Which layer of the epidermis has mitotic activity?

A - spiky

B - basal,

C - granular,

B is brilliant

E - horn

2. Between which layers of the skin is the basement membrane?

A - between epidermis and dermis

B - between dermis and hypodermis

C - between the basal and spinous layers of the epidermis

D - between the reticular and papillary layers of the dermis.

3. Sweat and sebaceous glands are located in:

A. - In the basal layer of the epidermis

B. - In the reticular layer of the dermis and hypodermis

C. - In the shiny layer of the epidermis

D. - In the spinous layer of the epidermis

4. Skin turgor (liquid tension) is due to:

A. - the presence of a horny layer of the epidermis

B. - the presence of collagen fibers in the structure of the dermis

C. - the presence of a granular layer in the epidermis

D. - the presence of hypodermis

5. Which of the listed functions is not characteristic of each cover?

A. – protective,

B. – isolated,

C. – respiratory,

D. - motor

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Safety of use of cosmetic products and methods of its research.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
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3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
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Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. — 3-тє вид., переробл. і доповн. — К.: «МОРІОН», 2016. — 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. — New York ; London : Informa Healthcare, 2007. — 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. —Х.: Оригінал, 2014.-448 с.
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5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. — Х. : Изд-во НФаУ, 2016. — 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладішев, С. М. Мусоев, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. — К.: «Освіта України», 2016. — 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskia // Вісник фармації. — 2017. — № 2 (90). — С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.

9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалурунова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармацевції та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П. Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. www.moz.gov.ua – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](http://onmedu.edu.ua) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 3

Topic: «Ingredients of cosmetics. The principles of choosing ingredients depending on the type of skin and the purpose of the cosmetic product» - **6 h.**

Objective: familiarize yourself with the modern definition of active and auxiliary substances that are part of medicinal cosmetics, study their classification and characteristics, with biologically active substances of plant origin as active components of cosmetics, with the main stages of composition of cosmetic formulations depending on skin types, know the classification of auxiliary substances, included in cosmetic preparations; main groups of substances and their characteristics; characteristics of BARs included in cosmetic products; characteristics of auxiliary substances used in the formulation of cosmetic preparations; characteristics of auxiliary substances used in the industrial production of cosmetics.

Basic concepts: enhancers, preservatives, antioxidants, dyes.

Plan

I. Theoretical questions for the lesson:

1. Biologically active substances used in cosmetology.
2. Medical cosmetics used in dermatology and cosmetology.
3. Oils used in the cosmetic industry.
4. Preservatives.

5. Moisturizing components.
6. Excipients used in the formulation of cosmetic preparations.
7. Factors affecting the process of bioavailability of cosmetic products when applied to the skin.
8. Biologically active, active and auxiliary substances of perfumery and cosmetic forms.
9. Prospective types of raw materials for cosmetics.
10. Methods of determining the perspective of using various substances in cosmetics.

Questions for self-control

1. The difference in the meaning of the terms "cosmetology" and "cosmetics".
2. Directions of state regulation of the production of cosmetics and personal care products in Ukraine.
3. State sanitary and hygienic examination of cosmetic products.
4. Safety of cosmetic products.
5. Sanitary-hygienic and microbiological indicators, by which the quality of cosmetic products is evaluated.
6. Sources of microbial contamination of cosmetic products and ways to prevent it.
7. Consequences of microbial contamination of cosmetics, external signs of microbial contamination.
8. Criteria for assessing the safety of microbial contamination for various types of products, their justification.
9. Certification of cosmetic products in Ukraine, its features.
10. Documenting the results of sanitary and hygienic examination.
11. Normative documents according to which the production of cosmetic products is carried out.
12. Normative documents regulating the creation, production and sale of medical cosmetics.

Approximate tasks for the study of theoretical material

5. *Make a dictionary of basic concepts on the topic*
6. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
enhancers	"amplifiers" of the permeability of the epidermal barrier.	the role of enhancers are: Zemea Propanediol-1,3* - has moisturizing properties, has a softening effect, enhances the effect of active ingredients. Natural enhancers are urea, aloe, essential oils of grapefruit and ylang-ylang.

preservatives	substances that can increase the shelf life of food and other products (for example, cosmetics) by protecting them from microbiological deterioration.	substances that can increase the shelf life of food and other products (for example, cosmetics) by protecting them from microbiological deterioration.
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II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.3. content of tasks

1. Classify the cosmetic preparations presented by the teacher, describe the meaning and expected effects.
2. Choose the following substances from the cosmetic composition presented by the teacher and describe their properties: the name of the cosmetic product

enhancers

preservatives

antioxidants dyes

vitamins and biological extracts products of mineral origin

Fill in the table: "Active and auxiliary substances in the composition of cosmetic products."

substances	representatives	the main meaning
Water		
Alcohols (polyhydric alcohols)		
Oils (of animal and vegetable origin)		
waxes		
Hydrocarbons		
High molecular compounds		
Silicones		
Surfactants		
Vitamins		
Biological extracts		
Dyes, mother-of-pearl		
Preservatives		
Antioxidants		
Fragrant substances		

III. Test tasks for self-control

Test tasks on this topic:

1. Which of the listed substances belong to anionic surfactants:

- a) sorbitan esters
- b) carboxybetaine
- c) lecithin
- d) stearyl ammonium chloride e) sodium lauryl sulfate

2. Which hydrophilic solvent is most often used in the production of perfumery and cosmetic products:

- a) ethyl alcohol
- b) lecithin c
-) glycerin
- d) carboxymethylcellulose

3. As a moisturizer in the composition of perfume and cosmetic products, the following is most often used:

- a) ethyl alcohol
- b) lecithin
- c) glycerin
- d) carboxymethyl cellulose

4. Skin softening agents (emollients) are used as auxiliary substances in the composition, namely:

- A - amino acids
- B - boric acid
- B - glycerin
- G - drug Retinox-80

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Ingredients of cosmetics. The principles of choosing ingredients depending on the type of skin and the purpose of the cosmetic product.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. – Вінниця: Нова книга, 2016. – 536 с.
3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів/ О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. –Х.: Оригінал, 2014.-448 с.
4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. – Х. : Вид-во НФаУ, 2017. – 91 с.
5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладишев, С. М. Мусоев, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.
9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU

2. [Scientific library of ONMedU \(odmu.edu.ua\)](http://odmu.edu.ua) - Scientific library of ONMedU
3. www.moz.gov.ua – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](http://onmedu.edu.ua) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 4

Topic: «Means for cleaning the skin, features of the composition.» - 6 h.

Objective: cosmetic lotions, definition, characteristics and classification of lotions; the cosmetic effect of lotions for hygienic and medical and preventive purposes; characteristics and functional purpose of the main components of the formulation of cosmetic lotions; characteristics of the nomenclature of biologically active substances in the composition of lotions for hygienic and therapeutic and preventive purposes; lotion preparation technology.

Basic concepts: cleansing creams, scrub creams, peeling creams, lotions.

Plan

I. Theoretical questions for the lesson:

1. Anatomical and physiological features of the skin.
2. Cosmetic aspects of the skin. Characteristics and methods of determining skin types.
3. Characteristics of homogeneous dispersed systems.
4. Features of the effect of liquid cosmetics on the skin and its appendages.
5. Classification of cosmetics.
6. Classification, nomenclature and characteristics of biologically active and auxiliary substances used in the formulations of cosmetic lotions.
7. Factors affecting the process of bioavailability of cosmetics when applied to the skin.
8. Biologically active, active and auxiliary substances of perfumery and cosmetic forms.
9. Prospective types of raw materials for cosmetics.
10. Methods of determining the perspective of using various substances in cosmetics.

Questions for self-control

1. Cosmetic lotions. Definition, characteristics and classification of lotions.
2. Cosmetic effect of lotions for hygienic and medical and preventive purposes.
3. Characteristics and functional purpose of the main components of the formulation of cosmetic lotions.
4. Characteristics, nomenclature of biologically active substances in the composition of lotions for hygienic and therapeutic and preventive purposes.
5. Definition of soap. Cosmetic effect. Classification of soaps, their general characteristics. Physico-chemical properties of soaps, quality requirements.
6. Characteristics of the main and auxiliary substances in the composition of soap.
7. Classification of fatty acids, natural fats and their synthetic analogues.
8. Characteristics of alkaline reagents, flavorings, dyes.

9. Characteristics of antiseptic and biologically active additives, emollients, hydrotropes, plasticizers.

10. Soap technology (direct and indirect soap making), evaluation of their quality. Liquid toilet soap based on natural surfactants. Glycerin bar soap. Technology. Quality control.

11. Characteristics of bath foams and their technology.

Approximate tasks for the study of theoretical material

7. *Make a dictionary of basic concepts on the topic*

8. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
Cosmetic lotion	Water-alcohol, alcohol-water solution or liquid emulsion (suspension) of biologically active substances and useful additives, fragrance and dye (or without it for emulsion-based cosmetic lotions); a product for skin, hair, nail care and aromatization.	Water-alcohol, alcohol-water solution or liquid emulsion (suspension) of biologically active substances and useful additives, fragrance and dye (or without it for emulsion-based cosmetic lotions); a product for skin, hair, nail care and aromatization.
tonic lotion	Alcohol-water solution or emulsion of biologically active substances, useful additives and dye (or without it if colored raw materials are used); skin care product; used for normalizing the acid-alkaline balance of the skin, cleansing, flavoring and regulating the tone of the skin, hair or nails.	Alcohol-water solution or emulsion of biologically active substances, useful additives and dye (or without it if colored raw materials are used); skin care product; used for normalizing the acid-alkaline balance of the skin, cleansing, flavoring and regulating the tone of the skin, hair or nails.

tonic	Means in the form of a solution or liquid emulsion (suspension), which is intended for skin care, cleansing, normalization of acid-alkaline balance, improvement of skin tone, firmness and elasticity.	Means in the form of a solution or liquid emulsion (suspension), which is intended for skin care , its purification, normalization of acid-alkaline balance, improvement of skin tone, firmness and elasticity.
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II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.4. content of tasks

1. Propose the composition and justify the functional purpose and quantitative content of the recipe ingredients:

- Hygienic lotion for oily skin;
- Lotion for oily skin for therapeutic and preventive purposes;
- Lotion for problem skin;
- Lotion for the treatment of acne;
- Tonic lotion for dry skin for hygienic purposes;
- Tonic lotion for dry skin for therapeutic and preventive purposes;
- Depigmenting lotion;
- Lotion after shaving.

III. Test tasks for self-control

Test tasks on this topic:

1. The technical conditions for the production of cosmetic products are:
 - A. Normative document that meets the mandatory requirements of the state standard
 - B. Regulatory document that regulates the relationship between the developer (supplier) and the consumer (customer) of products
 - C. Normative document regulating quality, safety indicators, methods of their control, inoculations of reception, transportation and storage of finished products
 - D. Normative and technical document that regulates the methods, means and standards of production
2. Indicate by which indicators the safety of perfumery and cosmetic products is evaluated:
 - A. Clinical indicators
 - B. Sanitary and chemical indicators
 - C. Toxicological indicators
 - D. Microbial contamination
3. In order to issue a hygienic opinion on imported perfumery and cosmetic products, it is necessary to have:

A Results of sanitary and hygienic examination of products produced in the country of manufacture

B. Certificate for a similar type of product manufactured in Ukraine

C. Certificate of the producer of the country

D. Results of sanitary and hygienic examination of products produced in Ukraine

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Means for cleaning the skin, features of the composition.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. — Вінниця: Нова книга, 2016. — 536 с.
3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. — 3-тє вид., переробл. і доповн. — К.: «МОРІОН», 2016. — 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. — New York ; London : Informa Healthcare, 2007. — 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. —Х.: Оригінал, 2014.-448 с.
4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. — Х. : Вид-во НФаУ, 2017. — 91 с.
5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. — Х. : Изд-во НФаУ, 2016. — 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладішев, С. М. Мусоєв, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. — К.: «Освіта України», 2016. — 141 с.

7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.
9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П. Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 5

Topic: «Moisturizing cosmetic products, compositional features. Ways to moisturize the skin. Nomenclature of skin moisturizers» - **6 h.**

Objective: cosmetic masks, scrubs: definition, classification, general characteristics, mechanism of action, nomenclature and characteristics of the components of the formulation of cosmetic masks depending on the purpose, nomenclature and characteristics of active and auxiliary substances used in the production of cosmetic scrubs, technology of cosmetic masks and scrubs, quality assessment cosmetic masks and scrubs.

Basic concepts: masks, cosmetic scrubs.

Plan

I. Theoretical questions for the lesson:

1. Cosmetic creams. Definition, classification.

2. Factors affecting the process of bioavailability of cosmetic products when applied to the skin.
3. Features of the cosmetic effect of preparations based on emulsions. Definition of emulsion creams, their classification, cosmetic effect.
4. Mechanism of stabilization of emulsions.
5. Characteristics and functional purpose of the main components of the formulation of cosmetic emulsions.
6. Principles of formulation of emulsion cosmetic creams.
7. Technology of preparation of emulsion creams. Quality control of creams.
8. Special purpose cosmetic creams.
9. Children's creams. Creams for correcting skin imperfections. 1
0. Fat creams. Definition, characteristics, technology.
11. Cosmetic petroleum jelly. Characteristics, technology.
12. Suspension creams. Definition, characteristic. Classification. Characteristics of suspension cream fillers. Technology of suspension creams on emulsion, fat and gel bases.
13. Gel creams, their classification and technology.
14. Cosmetic masks. Definition, characteristics, classification. The main components of the formulation of cosmetic masks (emollients, hydrotropes, dermatotropes).
15. Scrubs. Definition, characteristics, classification. Characteristics of the active substances of scrubs.
16. Photoprotective creams. Recipe. Nomenclature and mechanism of action of UV filters.
17. Depilatory creams. Recipe. Assessment of quality and consumer characteristics. Container, packaging and storage conditions.

Questions for self-control

1. Give the classification of morphological elements of skin diseases, list the morphological elements, give them a brief description.
2. List the pathologies of the skin and its appendages:
 - A) diseases of sebaceous and sweat glands
 - B) infectious bacterial dermatoses
 - C) allergic skin diseases
 - D) violation of skin pigmentation
 - E) hair diseases.
3. Describe the composition of lotions depending on the direction of action.
4. Describe the technological process of making lotions.
5. List the main quality indicators of lotions and tonics.

Approximate tasks for the study of theoretical material

9. *Make a dictionary of basic concepts on the topic*
10. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
cosmetic preparations	drugs that are used for the care of skin, nails, hair, oral cavity; hygienic, preventive and aesthetic functions are performed.	drugs that are used for the care of skin, nails, hair, oral cavity; hygienic, preventive and aesthetic functions are performed.
medical cosmetics	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.	the criterion that classifies them as medicinal products is the presence of individual substances or their combination used for therapeutic or prophylactic purposes, and the criterion that classifies them as cosmetic products is the presence of a cosmetic effect, but the first criterion is decisive.
cosmetic masks	is a series of cosmetics for highly effective skin care of the face and body. By purpose, masks are divided into cleansing, nourishing, whitening, plastic, etc	show a more intense effect on the skin compared to other cosmetic forms (CF), such as lotions, emulsions, creams, gels, etc.

II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.5. content of tasks

Content of the task of practical work: describe the quality indicators of cosmetic creams, describe the technology of emulsion cream production. Suggest the composition of the cosmetic scrub.

Task №1 Propose the composition and justify the functional purpose and quantitative content of ingredients in the formulation of cosmetic masks:

- For oily skin;
- For dry skin;
- For normal skin;
- Have a cleansing effect;
- Provide a moisturizing effect;
- Have a whitening effect;
- Have a tonic effect;
- Have an astringent effect;

- They have a tightening effect.

When developing the formulation of a cosmetic preparation, the following is taken into account:

- The degree of influence of the cosmetic preparation
- Purpose and cosmetic effect;
- The nature and quantity of the active component;
- Form of release of the drug.

Task №2 Propose the composition and justify the functional purpose and quantitative content of the ingredients of the scrub recipe:

- For oily skin;
- For dry skin;
- For normal skin.

When developing the formulation of a cosmetic preparation, the following is taken into account:

- The nature and quantity of the active component;
- Degree of dispersion of abrasive substances;
- Nature and amount of auxiliary substances;
- Form of release of the drug.

III. Test tasks for self-control

Test tasks on this topic:

1. Emulsion cosmetics with a transepidermal level of exposure differ:

- A. Surface action on the skin
- B. Penetration into the dermis
- C. Therapeutic and preventive effect
- D. Emollient effect on the skin
- E. Hydrating action on the skin

2. Emulsions of the first kind are rational as a basis for creating cosmetics:

- A. transdermal care cream for dry skin
- B. transdermal care cream for oily skin
- C. children's creams with epidermal action
- D. protective water-repellent creams
- E. cosmetic milk for removing make-up
- K. cosmetic milk for the care of oily skin
- Z. tonal cream

3. To create a moisturizing cream for dry skin, rationally use the following components:

- A. Hyaluronic acid
- B. Tanin
- C. Glycerin
- D. Boric acid

E. Vaseline

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Moisturizing cosmetic products, compositional features. Ways to moisturize the skin. Nomenclature of skin moisturizers.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. – Вінниця: Нова книга, 2016. – 536 с.
3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів/ О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. –Х.: Оригінал, 2014.-448 с.
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5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладішев, С. М. Мусоєв, Т. Ф. Оліфірова, Л. І. Вишнеvsька, О. М. Глуценко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.

9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалурунова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. www.moz.gov.ua – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](http://onmedu.edu.ua) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 6

Topic: «Cosmetic means of protective action, features of the composition. Photoprotective means.» - **6 h.**

Objective: Photoprotective means. Harmful factors of the external environment that affect the condition of the skin. Skin protection from wind, frost and other factors. Skin protection from UV radiation. The choice of photoprotective means depends on the sun factor.

Basic concepts: protective cosmetics.

Plan

I. Theoretical questions for the lesson:

Protective cosmetic preparations:

- 1) water repellent
- 2) photoprotective
- 3) hydrating (moisturizing)
- 4) mitigating Give relevant examples of cosmetic products.

Questions for self-control

1. Types of normative documents. Definition. Categories. National Standards of Ukraine. Definition. Mandatory requirements of DEST, approval procedure.
2. Technical conditions. Definition, requirements for the development of technical specifications, constituent parts. Sanitary and hygienic examination of regulatory documentation. Examination procedure. The conclusion of the state sanitary and hygienic examination of regulatory documentation. Order of receipt.
3. Technological and technical regulations. Technological instructions. Definition. Structure.
4. Safety assessment of perfumery and cosmetic preparations.
5. Sanitary rules and safety norms of perfumery and cosmetic products. The procedure for conducting research.
6. The procedure for obtaining a permit for the production and sale of perfumery and cosmetic products. Documentation required. Certification.
7. The procedure for importing imported products into Ukraine. The current state and trends in the development of perfumery and cosmetic production abroad and in Ukraine.
8. Promising cosmetic products and forms.

Approximate tasks for the study of theoretical material

11. *Make a dictionary of basic concepts on the topic*

12. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
photoaging	the process of permanent aging of the skin under the influence of ultraviolet rays, damage to the skin by sunlight.	the process of permanent aging of the skin under the influence of ultraviolet rays, damage to the skin by sunlight.
photodermatitis	inflammatory process of the skin, reaction to sunlight, due to its increased sensitivity	inflammatory process of the skin, reaction to sunlight, due to its increased sensitivity
photoprotective cosmetics	medicinal cosmetics to prevent photoaging, photodermatoses and ensure safe tanning	medicinal cosmetics to prevent photoaging, photodermatoses and ensure safe tanning

II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.6. content of tasks

Protective cosmetic preparations:

- water repellent
- photo protective
- hydrating (moisturizing)
- emollients

Give relevant examples of cosmetic products, make a table.

III. Test tasks for self-control

Test tasks on this topic:

1. The main effect of water-soluble collagen, included in the cosmetic cream, is

- A. Cleansing action
- B. Absorption of UV radiation
- C. Antitoxic effect
- D. Hydrating effect

2. Skin softening agents (emollients) are used as auxiliary substances in the composition, namely:

- A - amino acids
- B - boric acid
- C - glycerin
- D - drug Retinax-80

3 Emulsion cosmetics with different levels of transepidermal exposure:

- A. Penetration into the dermis
- B. Surface action on the skin
- C. Therapeutic and preventive effect
- D. Emollient effect on the skin

4. Emulsions of the first kind are rational as a basis for creating cosmetics:

- A. Children's creams of epidermal action
- B. transdermal care cream for oily skin B. transdermal care cream for dry skin
- C. protective water-repellent creams

5. Emulsions of the second kind are rational as a basis for creating cosmetics:

- A. there is no correct answer
- B. transdermal care cream for oily skin
- C. Children's creams of epidermal action
- D. protective water-repellent creams

6. To create a moisturizing cream for dry skin, rationally use the following components:

- A. Hyaluronic acid
- B. Tanin
- C. Glycerin

D. Boric acid

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Cosmetic means of protective action, features of the composition. Photoprotective means.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. — Вінниця: Нова книга, 2016. — 536 с.
3. Посилкіна О. В., Котлярова В. Г., Четверта О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. — 3-тє вид., переробл. і доповн. — К.: «МОПІОН», 2016. — 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. — New York ; London : Informa Healthcare, 2007. — 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. —Х.: Оригінал, 2014.-448 с.
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5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. — Х. : Изд-во НФаУ, 2016. — 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладишев, С. М. Мусоев, Т. Ф. Оліфірова, Л. І. Вишнеvsька, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. — К.: «Освіта України», 2016. — 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. — 2017. — № 2 (90). — С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.
9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. — 2011. — Vol. 2. — P. 1006– 1019.

10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 7

Topic: «Cosmetic products for oral hygiene, composition features.» - 6 h.

Objective: to study the features of the main means of oral hygiene, characteristics, technology.

Basic concepts: toothpastes (powders), dental gels, dental elixirs.

Plan

I. Theoretical questions for the lesson:

Protective cosmetic preparations:

- 1) water repellent
- 2) photoprotective
- 3) hydrating (moisturizing)
- 4) mitigating Give relevant examples of cosmetic products.

Questions for self-control

1. Classification and nomenclature of preparations for the care of the oral cavity. Requirements for their quality. Cosmetic effect.
2. Toothpastes. Definition, classification. Cosmetic effect. Factors affecting the stability of toothpastes.
3. Nomenclature and characteristics of abrasive substances and plasticizers, which are used in the production of preparations for the care of the oral cavity.

4. Characterization and functional purpose of surface-active substances and flavorings in the composition of toothpastes.
5. Characteristics of substances that have an anti-caries effect.
6. Biologically active additives, as part of preparations for the care of the oral cavity. Classification. Nomenclature. Mechanism of action.
7. Peculiarities of formulation of recipes of cosmetic preparations for the care of the oral cavity and teeth. Different directions of action. Peculiarities of making own formulations of toothpastes, dental elixirs with different directions of action.
8. Dental elixirs. Definition. Classification. Cosmetic effect. Characteristics of main and auxiliary substances in dental elixirs. Technology and quality assessment.
9. Tooth powders. Definition. Classification. Cosmetic effect. Characteristics of the main and auxiliary substances of tooth powders. Technology. Quality control.
10. Dental floss (floss), chewing gums, means for fixing prostheses.

Questions for self-control

Therapeutic and preventive toothpastes Such tools have many functions. In addition to abrasives and flavorings, they have extracts, salts, vitamins, peroxides, and enzymes. Some are designed for daily dental care for hygiene and prevention. Others may be prescribed by a doctor for treatment of the oral cavity. Dental treatment and prevention pastes are divided into several types (describe their composition and functions):

- 1) Anticarious
- 2) Anti-inflammatory
- 3) Desensitizing
- 4) Whiteners
- 5) Sorptive
- 6) Organic
- 7) Children's.

Approximate tasks for the study of theoretical material

13. *Make a dictionary of basic concepts on the topic*

14. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
anti-caries medically preventive toothpastes	protect against the appearance of dental plaque, strengthen teeth.	many have fluoride. But the paste can be without it, then enzymes or calcium compounds are present.

sorption medical and preventive toothpastes	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.	the criterion that classifies them as medicinal products is the presence of individual substances or their combination used for therapeutic or prophylactic purposes, and the criterion that classifies them as cosmetic products is the presence of a cosmetic effect, but the first criterion is decisive.
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II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.7. content of tasks

Protective cosmetic preparations:

- water repellent
- photo protective
- hydrating (moisturizing)
- emollients

Give relevant examples of cosmetic products, make a table.

III. Test tasks for self-control

Offer a selection of ingredients for the formulation of the following cosmetic products for the care of the oral cavity and teeth: toothpaste with anti-caries effect, periodontal paste, dental elixir for acute gingivitis.

Task 1 Describe the composition of toothpaste. Give the composition of tooth powder to relieve inflammation of the gums. Describe the composition of deodorant and nail care products.

2. Familiarize yourself with oral hygiene methods, techniques for cleaning the oral cavity.

Test tasks on this topic:

1. The condition of a cosmetic product that is convenient to use and provides the necessary cosmetic effect is:

- a) medical cosmetic preparation
- b) a cosmetic product
- c) cosmetic form
- d) cosmetic product

2. The technical conditions for the production of cosmetic products are:

- A. Normative document that regulates relations between the developer (supplier) and the consumer (customer) of products
- B. Normative document regulating quality and safety indicators, methods of their control, rules of acceptance, transportation and storage of finished products
- C. Normative document that meets the mandatory requirements of the state standard
- D. Normative and technical document that regulates the methods, means and standards of production

3. In order to issue a hygienic opinion on imported perfumery and cosmetic products, it is necessary to have:

A Certificate for a similar type of product manufactured in Ukraine

B. Certificate of the manufacturer of the country and the results of the sanitary and hygienic examination of the products produced in Ukraine

C. Results of sanitary and hygienic examination of products produced in the country of manufacture

D. Conclusions of the sanitary and hygienic examination of regulatory documentation

4. Emulsion cosmetics with a transepidermal level of exposure differ:

A. Surface action on the skin

B. Penetration into the dermis

C. Therapeutic and preventive effect

D. Emollient effect on the skin

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Cosmetic products for oral hygiene, composition features.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.

2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. – Вінниця: Нова книга, 2016. – 536 с.

3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.

4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.

2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.

3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О. І. Тихонов, С. О. Тихонова, О. П. Гудзенко та ін.; за ред. О. І. Тихонова, С. О. Тихонової. – Х.: Оригінал, 2014.-448 с.

4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. – Х. : Вид-во НФаУ, 2017. – 91 с.

5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О.

Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богущька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.

6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладишев, С. М. Мусоєв, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глуценко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.

7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.

8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.

9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.

10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980

11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.

12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.

13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29

14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П. Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 8

Topic: «Means for carrying out cosmetic procedures.» - 6 h.

Objective: know the definition of a cosmetic and medicinal cosmetic product and the differences between them, the classification of cosmetic products, orientate in the active and auxiliary substances included in the composition of cosmetic and medical cosmetic

products, have a concept of modern trends in the development of the cosmetic industry and pharmaceutical care when dispensing medicinal cosmetics.

Basic concepts: cosmetic product, medicinal cosmetic product.

Plan

I. Theoretical questions for the lesson:

1. Cosmetic masks.
2. Massage creams.
3. Means for skin depilation.
4. Salon and household cosmetic procedures, their classification and characteristics.
5. Cosmetic masks, forms of mask production and features of their use.
6. Massage creams.
7. Methods of fighting cellulite.
8. Metabolism of adipose tissue.
9. Stages of cellulite formation.
10. Preparations for internal and external therapy.
11. Anti-cellulite means.

Questions for self-control

1. Principles of ingredient selection depending on the type of skin and the purpose of the cosmetic product.
2. Ingredients of cosmetic products, their classification and characteristics.
3. Natural and synthetic ingredients in cosmetics.
4. Biologically active substances of plant origin as active components of cosmetics.
5. Cosmetic, technological and biopharmaceutical evaluation of individual groups of ingredients.
6. Promising cosmetic products and forms.

Approximate tasks for the study of theoretical material

15. *Make a dictionary of basic concepts on the topic*

16. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
cream	ointments of a soft consistency, which are oil-in-water or water-in-oil emulsions.	ointments of a soft consistency, which are oil-in-water or water-in-oil emulsions.
gel	soft medicinal form of a viscous consistency,	soft medicinal form of a viscous consistency, able to retain its shape and

	able to retain its shape and possess elasticity and plasticity. According to the type of dispersed systems, hydrophilic and hydrophobic gels are distinguished.	possess elasticity and plasticity. According to the type of dispersed systems, hydrophilic and hydrophobic gels are distinguished.
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II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.8. content of tasks

Using the International Classification of Cosmetic Ingredients, on the example of samples of cosmetic products, justify the functional purpose of each of the components: massage cream, skin depilation agent, anti-cellulite agent.

III. Test tasks for self-control

Offer a selection of ingredients for the formulation of the following cosmetic products for the care of the oral cavity and teeth: toothpaste with anti-caries effect, periodontal paste, dental elixir for acute gingivitis.

Task 1 Describe the composition of toothpaste. Give the composition of tooth powder to relieve inflammation of the gums. Describe the composition of deodorant and nail care products.

2. Familiarize yourself with oral hygiene methods, techniques for cleaning the oral cavity.

Test tasks on this topic:

1. Principles of ingredient selection depending on the type of skin and the purpose of the cosmetic product.
2. Ingredients of cosmetic products, their classification and characteristics.
3. Natural and synthetic ingredients in cosmetics.
4. Biologically active substances of plant origin as active components of cosmetics.
5. Cosmetic, technological and biopharmaceutical evaluation of individual groups of ingredients.
6. Promising cosmetic products and forms.

1. The condition of a cosmetic product that is convenient to use and provides the necessary cosmetic effect is:

- a) medical cosmetic preparation
- b) a cosmetic product
- c) cosmetic form
- d) cosmetic product

2. The technical conditions for the production of cosmetic products are:

A. Normative document that regulates relations between the developer (supplier) and the consumer (customer) of products

B. Normative document regulating quality and safety indicators, methods of their control, rules of acceptance, transportation and storage of finished products

C. Normative document that meets the mandatory requirements of the state standard

D. Normative and technical document that regulates the methods, means and standards of production

3. In order to issue a hygienic opinion on imported perfumery and cosmetic products, it is necessary to have:

A Certificate for a similar type of product manufactured in Ukraine

B. Certificate of the manufacturer of the country and the results of the sanitary and hygienic examination of the products produced in Ukraine

C. Results of sanitary and hygienic examination of products produced in the country of manufacture

D. Conclusions of the sanitary and hygienic examination of regulatory documentation

4. Emulsion cosmetics with a transepidermal level of exposure differ:

A. Surface action on the skin

B. Penetration into the dermis

C. Therapeutic and preventive effect

D. Emollient effect on the skin

5. The main effect of water-soluble collagen included in the cosmetic cream is:

a) absorption of UV radiation

b) hydrating effect

c) antitoxic effect

d) nourishing effect

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Means for carrying out cosmetic procedures.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.

2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. – Вінниця: Нова книга, 2016. – 536 с.

3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.

4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. –Х.: Оригінал, 2014.-448 с.
4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. – Х. : Вид-во НФаУ, 2017. – 91 с.
5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладишев, С. М. Мусоев, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.
9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980
11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU

2. [Scientific library of ONMedU \(odmu.edu.ua\)](http://odmu.edu.ua) - Scientific library of ONMedU
3. www.moz.gov.ua – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](http://onmedu.edu.ua) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 9

Topic: «Cosmetic products for hair care.» - 6 h.

Objective: to form theoretical knowledge of the nomenclature, cosmetic effect, classification and mechanism of action of shampoos, shampoo-conditioners, shampoos against dandruff with different directions of action; acquire practical skills and abilities regarding the rational choice of the formulation of this group of drugs for different types of skin and hair, optimal technology and quality assessment.

Basic concepts: shampoo, shampoo-conditioner.

Plan

I. Theoretical questions for the lesson:

1. Definition of shampoos. Cosmetic effect.
2. Classification of shampoos. Requirements for the quality of shampoos.
3. Characterization of the main and auxiliary substances in the composition of shampoos. Classification of surfactants, their positive properties and disadvantages.
4. Mechanism of action of surfactants. Characteristics of anionic surfactants.
5. Characteristics of cationic, anionic and nonionic surfactants.
6. Characteristics of thickeners, antistatic agents, preservatives, antioxidants, pH regulators, degreasers, hydrotropes, aromas, dyes.
7. Characterization of biologically active substances, antiseborrheic agents in shampoos.
8. Technology of shampoos and evaluation of their quality.
9. Cosmetic products for intensive hair care.
10. Cosmetic hair care products. Characteristics of balms and rinses.
11. Nomenclature and properties of cationic polymers, silicone liquids.

Questions for self-control

1. Hair as an appendage of the skin. Hair structure. Functions.
2. Methods of determining the condition, type and physical properties of hair.
3. Classification and nomenclature of surfactants used in foam cleansing cosmetics.
4. Classification, characteristics and nomenclature of auxiliary, biologically active and active substances used in the production of hair care preparations.
5. Basic technological approaches to the preparation of emulsion, gel and liquid dispersion systems.
6. Shampoos. Definition. Classification. Cosmetic effect.
7. Classification and nomenclature of surfactants used in the production of shampoos.
8. Cosmetic effect when using cosmetic products with a foam washing effect for hair.

9. Characteristics of the nomenclature and recommended concentrations of anionic, cationic, amphoteric and nonionic surfactants in the composition of foaming cosmetic preparations for hair.
10. The mechanism of cleansing action of foam cleansing cosmetics.
11. Positive and negative effects when using surfactants.
12. Function, characteristics, nomenclature of thickeners, antistatic agents, preservatives and bactericides in shampoos.
13. Factors affecting the effectiveness of preservatives.

Approximate tasks for the study of theoretical material

17. *Make a dictionary of basic concepts on the topic*

18. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
shampoo	cosmetic product for hair and scalp cleaning and care.	cosmetic product for hair and scalp cleaning and care.
shampoo-conditioner	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.

II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

1.9. content of tasks

1. Propose and justify the basis of shampoo for normal hair.
2. Test shampoo samples suggested by the teacher, enter the results of your own observations into the table. Draw conclusions.

№	Indicators	Sample 1	Sample 2	Sample 3
1	Appearance			
2	Color			
3	Scent			
4	pH			
5	Foaming ability			

6	Mass parts of lorides, %			
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2. Analyze the composition of the proposed shampoo. Draw conclusions.

III. Test tasks for self-control

1. Classification of shampoos.
2. Classification of surfactants and their action as part of synthetic detergents
 - Cationic surfactants;
 - Anionic surfactants;
 - Amphoteric surfactants;
 - Nonionic surfactants;
3. Mechanism of washing action of foaming cosmetics.
4. The principle of formulation and research of shampoos.
5. Methods of analysis of shampoos and other detergents.

Test tasks on this topic:

1. To create a moisturizing cream for dry skin, rationally use the following components:
 - A. Hyaluronic acid
 - B. Tanin
 - C. Glycerin
 - D. Boric acid.
2. Which layer of the epidermis has mitotic activity?
 - A - spiky
 - B - basal,
 - C - granular,
 - D is brilliant
 - E - horn
3. Between which layers of the skin is the basement membrane?
 - A - between epidermis and dermis
 - B - between dermis and hypodermis
 - C - between the basal and spinous layers of the epidermis
 - D - between the reticular and papillary layers of the dermis.

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Cosmetic products for hair care.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. — Вінниця: Нова книга, 2016. — 536 с.

3.Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.

4.Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисюк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1.Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. – 3-тє вид., переробл. і доповн. – К.: «МОРІОН», 2016. – 1952 с.

2.Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. – New York ; London : Informa Healthcare, 2007. – 4128 p.

3.Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів/ О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. –Х.: Оригінал, 2014.-448 с.

4.Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. – Х. : Вид-во НФаУ, 2017. – 91 с.

5.Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. – Х. : Изд-во НФаУ, 2016. – 75 с.

6.Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладішев, С. М. Мусоев, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. – К.: «Освіта України», 2016. – 141 с.

7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. – 2017. – № 2 (90). – С. 43-47.

8.Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.

9.Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. – 2011. – Vol. 2. – P. 1006– 1019.

10.Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. – 2010. – Vol. 2. – P. 970–980

11.The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.

12.Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.

13.Дедишина Л. Косметевтика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29

14.Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

Electronic information resources

1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.

IWS 10

Topic: «Cosmetic products for children, features of the composition Forms of release of cosmetic products for children. Features of the composition and research of cosmetic products for children under 3 years of age.» - **6 h.**

Objective: to characterize the properties of the structure of the skin of children's body, the form of release of cosmetic products for children, to know the peculiarities of the composition and research of cosmetic products for children under 3 years of age.

Basic concepts: cosmetics for children.

Plan

I. Theoretical questions for the lesson:

1. Peculiarities of the structure of the skin of a child's body.
2. Forms of release of cosmetic products for children.
3. Features of the composition of cosmetic products for children up to 3 years old
4. Study of cosmetic products for children up to 3 years old.

Questions for self-control

1. Give a list of emollients for the treatment of atopic dermatitis in children.
2. Describe the characteristics of the structure of the skin of a child's body.
3. Describe the forms of production of cosmetic products for children, give relevant examples.
4. Describe the composition of cosmetic products for children up to 3 years old, give relevant examples. Present the results in the form of a table.
5. The following emollients are usually used for atopic dermatitis in newborns (indicate the list of dosage forms): Topikrem - a balm with a lipid-reducing formula. Glycerin, beeswax, allantoin, flax and shea butter - this composition perfectly nourishes the skin, heals and restores it. Milk or cream "A-Derma" is a good preventive agent, moisturizes and protects the skin. Balm "Dardiya" - perfectly copes with redness in all types of dermatitis in

newborns. "Physiogel" cream - when using this product, the baby's skin will be clean and healthy.

Approximate tasks for the study of theoretical material

19. *Make a dictionary of basic concepts on the topic*

20. *Fill in the orientation card for independent preparation of the student with the use of literature on the topic (the need to include in the guidelines of the orientation card is decided by the staff of the department):*

Basic and tasks and	In the fairy tale	Answers
1	2	3
<i>Explore:</i>		
emollients	means applied to the skin in order to soften it, moisturize it, restore its barrier function.	are widely used for the care of dry, sensitive skin, for atopic dermatitis, psoriasis, ichthyosis, promote the extension of remission, increase the effectiveness of anti-inflammatory therapy, help eliminate itching, soreness of the skin, and eliminate peeling Lotions, milk: the lightest forms, well applied in a thin layer, but have a lower moisturizing effect. Can be applied to areas with acute inflammation. Creams: thicker than lotions, but just as well absorbed, convenient to use during the day, do not leave an oily residue. Balms and ointments: the most oily and dense forms, suitable for very dry skin, thickened skin, with pronounced peeling, as well as for night care, have the maximum moisturizing effect. Not everyone likes to use it, because there is a feeling of "greasy" skin.
medical cosmetics	a medicinal product differs from a cosmetic product in the presence of substances of curative and preventive action in the formulation.	the criterion that classifies them as medicinal products is the presence of individual substances or their combination used for therapeutic or prophylactic purposes, and the criterion that classifies them as cosmetic products is the presence of a cosmetic effect, but the first criterion is decisive.

II. Practical work (tasks) that will be performed in class:

Formation of professional skills:

2.1. content of tasks

Solve the task:

Assess the quality of the cosmetic in accordance with the requirements of regulatory documents and indicate the method of application:

Powder for the treatment of skin ulcers Essential oil of wormwood 0.2

Rosemary essential oil 0.2

Dermatol 5.0 Zinc oxide 10.0

Talc 10.0

III. Test tasks for self-control

1. Peculiarities of the structure of the skin of a child's body.
2. Forms of release of cosmetic products for children.
3. Features of the composition of cosmetic products for children up to 3 years old
4. Study of cosmetic products for children up to 3 years old.

Test tasks on this topic:

1. Technical conditions for the production of cosmetic products are:
 - A. Normative document that meets the mandatory requirements of the state standard
 - B. Regulatory document that regulates the relationship between the developer (supplier) and the consumer (customer) of products
 - C. Normative document regulating quality, safety indicators, methods of their control, inoculations of reception, transportation and storage of finished products
 - D. Normative and technical document that regulates the methods, means and standards of production
2. Indicate by which indicators the safety of perfumery and cosmetic products is evaluated:
 - A. Clinical indicators
 - B. Sanitary and chemical indicators
 - C. Toxicological indicators
 - D. Microbial contamination
3. In order to issue a hygienic opinion on imported perfumery and cosmetic products, it is necessary to have:
 - A Results of sanitary and hygienic examination of products produced in the country of manufacture
 - B. Certificate for a similar type of product manufactured in Ukraine
 - C. Certificate of the producer of the country
 - D. Results of sanitary and hygienic examination of products produced in Ukraine
4. The main effect of water-soluble collagen, included in the cosmetic cream, is
 - A. Cleansing action
 - B. Absorption of UV radiation
 - C. Antitoxic effect
 - D. Hydrating effect

IV. Individual tasks for students on the topic of the lesson - to present in the form of presentations or IWS.

Cosmetic products for children, features of the composition Forms of release of cosmetic products for children. Features of the composition and research of cosmetic products for children under 3 years of age.

List of recommended literature:

Main:

1. Технологія косметичних засобів : підручник для студ. вищ. навч. закладів / О. Г. Башура, О. І. Тихонов, В. В. Россіхін [та ін.] ; за ред. О. Г. Башури і О. І. Тихонова. — Х. : НФаУ ; Оригінал, 2017. — 552 с.
2. Тихонов, О. І. Аптечна технологія ліків / О. І. Тихонов, Т. Г. Ярних. — Вінниця: Нова книга, 2016. — 536 с.
3. Посилкіна О. В., Котлярова В. Г., Чечетка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
4. Технологія лікувально-косметичних засобів: навчальний посібник / упоряд.: Борисяк І. Ю., Фізор Н. С., Валіводзь І. П., Акішева А. С.. Одеса, ОНМедУ, 2020.-52 с.

Additional literature

1. Фармацевтична енциклопедія / Голова ред. ради та автор передмови В. П. Черних. — 3-тє вид., переробл. і доповн. — К.: «МОРІОН», 2016. — 1952 с.
2. Encyclopedia of Pharmaceutical Technology: 3-d Ed. / ed. by J. Swarbrick. — New York ; London : Informa Healthcare, 2007. — 4128 p.
3. Практикум з аптечної технології ліків: навч. посіб. для студ. вищ. навч. закладів / О.І. Тихонов, С.О. Тихонова, О.П. Гудзенко та ін.; за ред.. О.І. Тихонова, С.О. Тихонової. —Х.: Оригінал, 2014.-448 с.
4. Екстемпоральні прописи для терапії дерматологічних захворювань : навч. посіб. для студентів медичних та фармацевтичних вузів / Н. П. Половко, Л. І. Вишневська, Т. М. Ковальова та ін. — Х. : Вид-во НФаУ, 2017. — 91 с.
5. Технологія виготовлення екстемпоральних лікарських апіпрепаратів і їх застосування в фармації, медицині та косметології : методичні рекомендації / О. І. Тихонов, Т. Г. Ярних, С. О. Тихонова, О. С., О. Г. Башура, О. С. Шпичак, Л. О. Бондаренко, П. С. Сирота, Б. Т. Кудрик, Р. І. Скрипник, Тихонов, Н. С. Богдан, С. Г. Бобро, Л. В. Каношевич, О. Є. Богуцька; за ред. О. І. Тихонова. — Х. : Изд-во НФаУ, 2016. — 75 с.
6. Технологія виготовлення порошків : навч. посібник / Л. Л. Давтян, Р. С. Коритнюк, О. І., А. О. Дроздова, І. О. Власенко, З. В. Маленька, В. П. Попович, В.В. Гладішев, С. М. Мусоєв, Т. Ф. Оліфірова, Л. І. Вишневська, О. М. Глущенко, О. О. Хомич; за ред. Л. Л. Давтян, Р. С. Коритнюк.. — К.: «Освіта України», 2016. — 141 с.
7. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskaya // Вісник фармації. — 2017. — № 2 (90). — С. 43-47.
8. Murachanian, D. Two-Piece Hard Capsules for Pharmaceutical Formulations / D. Murachanian // Journal of GXP Compliance. 2010. Vol. 14. P. 3142.
9. Patel H. New pharmaceutical excipients in solid dosage forms – A review / H. Patel, V. Shah, U. Upadhyay // Int. J. of Pharm. & Life Sci. — 2011. — Vol. 2. — P. 1006– 1019.
10. Recent Trends of Treatment and Medication Peptic Ulcerative Disorder / D. Bhowmik, Chiranjib, K. K. Tripathi [et al.] // International Journal of PharmTech Research. — 2010. — Vol. 2. — P. 970–980

11. The effects of powder compressibility, speed of capsule filling and pre-compression on plug densification / M. Llusa, E. Faulhammer, S. Biserni [et al.] // Int. J. Pharm. – 2014. – Vol. 471. – P. 182–188.
12. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина // Український біофармацевтичний журнал. - 2019. - № 2. - С. 6-13.
13. Дедишина Л. Косметевтика в аптеці: престижно та прибутково. Фармацевт Практик. 2015. № 12. С. 28-29
14. Маркетинг у фармації та парфумерно-косметичній галузі: навчально-методичний посібник для самостійної роботи студентів фармацевтичного факультету спеціальності «Технології парфумерно-косметичних засобів», / Н.О. Ткаченко., В.О. Демченко, Н.М. Червоненко, Т.П.Зарічна. - Запоріжжя: ЗДМУ, 2016. - 100 с.

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1. [Department of pharmaceutical chemistry and drug technology of ONMedU](#) – website of the Department of pharmaceutical chemistry and drug technology of ONMedU
2. [Scientific library of ONMedU \(odmu.edu.ua\)](#) - Scientific library of ONMedU
3. [www.moz.gov.ua](#) – official website of the Ministry of Health of Ukraine
4. [Odessa National Medical University \(onmedu.edu.ua\)](#) – ONMedU official website
5. State Register of Medicinal Products of Ukraine. - [Electronic resource]. - Access mode: <http://www.drlz.com.ua/> – as of 10.01.2017.