

Odesa National Medical University
Pharmaceutical Faculty
Department of Pharmaceutical Chemistry and Drug Technology

Syllabus of the course
«Technology of Medicinal Cosmetics»

Amount	Total number of hours - 90; number of ECTS credits - 3.
Semester, year	X semester, 5 year of study
Days, time, place	According to the approved schedule
Teacher	Candidate of Pharmaceutical Sciences, Associate Professor Fizor N.S.,
Contact phone	0950863908
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Work place	Department of Pharmaceutical Chemistry and Drug Technology, office.122
Consultations	<i>Online consultations:</i> remotely on the Microsoft Teams platform

COMMUNICATION

Scheduled classroom communication. Other types of communication: scheduled consultation according to the “Face to face” principle, remotely on the Microsoft Teams platform and using the lecturer's e-mail. The solution of “business issues” is possible by the specified phone number.

ANNOTATION OF THE COURSE

The **subject** of the discipline “Technology of medicinal cosmetics” is to teach students the theoretical foundations of cosmetic, medical and cosmetic care of the skin and cutaneous appendages, the rules for the cosmetic procedures application, the use of cosmetic preparations depending on the type of skin and cosmetic imperfections; to compose and substantiate the recipe of perfumery and cosmetic products; to choose and justify a rational method for the production of perfumery and cosmetic products; practical skills in the manufacture of cosmetics, control of its quality.

Course prerequisites: the discipline belongs to compulsory disciplines and is based on the knowledge gained during the study of general disciplines: Latin, botany, analytical chemistry, pharmaceutical technology of drugs, industrial technology of drugs, pharmacognosy, pharmacology, pharmaceutical chemistry, toxicological chemistry.

Postrequisites of the course: knowledge gained at the end of the study of the discipline is necessary for studying such disciplines as biopharmacy, pharmaceutical biotechnology.

The **purpose** of the course is mastering students of the ability to act in a socially responsible and civic conscious way, to apply knowledge in practical situations, to strive to preserve the environment, the ability to abstract thinking,

analysis and synthesis; the ability to learn and be up-to-date trained, to have the skills using information and communication technologies, the ability to assess and ensure the quality of work performed.

Objectives of the discipline:

- 1) to know and use the normative and legal acts of Ukraine and recommendations for medicinal cosmetics.
- 2) to know how to organize the production activities of pharmacies for the manufacture and sale of medicinal cosmetics;
- 3) to have knowledge of how to ensure proper storage of cosmetic forms and other decorative cosmetics.
- 4) to have the ability to provide health education among the population in order to prevent common skin pathologies, care for skin appendages and the principles of their choice.

Expected results:

As a result of studying the academic discipline, the applicant for education **must know:**

- 1) the main stages of cosmetology development;
- 2) established rules for the manufacture and sale of medicinal cosmetics;
- 3) anatomical and physiological features of the skin and its appendages;
- 4) clinical characteristics of the main skin types and methods of their determination;
- 5) clinical characteristics of the skin by the degree of elasticity, by the type of relief, by the level of blood supply and methods of their determination;
- 6) cosmetological aspects of morphology and physiology of hair, methods of determining the type of hair,
- 7) terminology and classification of cosmetic, medical cosmetic products, medical cosmetic and cosmetic skin care;
- 8) clinical characteristics of pathologies of the skin and its appendages;
- 9) classification and characteristics of active, medicinal and auxiliary substances used in cosmetology;
- 10) medicinal plants and biologically active substances used in cosmetology;
- 11) characteristics of beekeeping products used in cosmetology;
- 12) classification, characteristics, technology features, quality control of cosmetic forms: creams, gels, cosmetic milk, lotions, shampoos, powders and other decorative cosmetics;
- 13) the recipe of cosmetic preparations for the care of normal, oily, dry, mixed skin and the principles of their selection;
- 14) the recipe of medical and cosmetic preparations for the treatment of skin pathologies; the recipe of cosmetic preparations for the care of skin appendages and the principles of their selection;
- 15) the recipe of medical and cosmetic preparations for the treatment of pathologies of hair and nails;
- 16) the history of the aromology development;
- 17) the recipe of aromatic compositions for the care and treatment of the skin and its appendages;
- 18) features of the aroma compositions technology;

- 19 the recipe of perfumes;
- 20) innovative methods of cosmetic imperfections treatment.

be able to:

- 1) determine the main clinical characteristics of the skin: skin type; the degree of skin elasticity, the type of relief, the type of skin and the level of blood supply;
- 2) to produce cosmetic forms: creams, gels, pastes, ointments, cosmetic milk, lotions, shampoos, powders, lipsticks, etc. and control their quality;
- 3) to select medicinal, active and auxiliary components in the manufacture of cosmetic forms, taking into account the main clinical indicators of the skin;
- 4) to apply the appropriate recipe and cosmetic care depending on the type of skin and cosmetic imperfections;
- 5) to apply the recipe and medical and cosmetic care, depending on the type of hair and its pathologies;
- 6) to make aromatic compositions and select their composition depending on the cosmetic, as well as medical and cosmetic purposes.

master:

- 1) regulations, including mastering the issues of state regulation of the production and sale of perfumery and cosmetic products.
- 2) basic approaches to the analysis of cosmetic recipes that provide hygienic, therapeutic and prophylactic and decorative action;
- 3) predicting prospective directions based on computer methods for the development of new cosmetics;
- 4) compilation and implementation of rational technology for the manufacture and quality control of cosmetics in accordance with the requirements (NTD), knowledge of ways and methods to improve the efficiency of natural resources for the creation of new tools;
- 5) study of the market of medicinal cosmetics, knowledge for the formation of scientific worldview and modern thinking in the field of cosmetology
- 6) knowledge and skills to ensure the quality of cosmetics.

DESCRIPTION OF THE COURSE

The volume of the module: total number of hours is 90 which includes practical classes - 30 hours, independent work - 60 hours. In addition practical classes, individual and group consultations are provided. **Content of the discipline:**

Topic 1. Cosmetology as a branch of natural science and a component of the health care system.

Topic 2. The main stages of the development of cosmetology and aromology.

Topic 3. Cosmetic aspects of morphology and physiology of the skin. Permeability.

Topic 4. State regulation of production and sale of perfumery and cosmetic products. Sanitary and hygienic examination of the PQI. Certification.

Topic 5. Biologically active ingredients, medicinal and auxiliary substances in the composition of cosmetics.

Topic 6. Container and packaging of perfumery and cosmetic products.

Topic 7. Basic principles of cosmetics application.

Topic 8. Cosmetic preparations of liquid form. Lotions. Tonics.

Topic 9. Cosmetic preparations with foam detergents purposes.

Topic 10. Cosmetics for the oral cavity care.

Topic 11. Cosmetic creams.

Topic 12. Cosmetic gels.

Topic 13. Cosmetic deodorizing products.

Topic 14. Decorative cosmetics for skin care.

Topic 15. Decorative cosmetics for hair and nails.

Topic 16. Perfumery.

Topic 17. Cosmetics for special purposes.

List of recommended literature:

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Main:

1. Пешук Л. Технологія парфумерно-косметичних продуктів. Навчальний посібник. Видавництво: Центр навчальної літератури. – 2019. – С. 376.
2. Технологія та застосування лікувально-косметичних засобів. Навчальний посібник / О. В. Федорова, Р. О. Петріна, Н. Л. Заярнюк, В. В. Гавриляк, А. О. Миляннич, В. П. Новіков. Львів : Видавництво Львівської політехніки, 2019. - 244 с.
3. 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.
4. Посилкіна О. В., Котлярова В. Г., Четчка О. В. Методичні рекомендації щодо оптимізації асортименту лікарських косметичних засобів в аптечних закладах : наук.-метод. рек. Харків : НФаУ, 2019. 31 с.
5. 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. Розроблення концептуальних підходів до регулювання обігу косметичної продукції в Україні / І. С. Казакова, С. М. Коваленко, В. О. Лебединець, В. С. Казакова. *Вісник фармації*. 2021. № 2. С. 63-74.
2. До обґрунтування альтернативного методу визначення токсичності парфумерно-косметичної продукції методом «in vitro» на короткочасній суспензійній культурі клітин — сперматозоїдах великої рогатої худоби (огляд літератури) / Т. Ф. Харченко, В. М. Левицька, О. А. Харченко та ін. *Сучасні проблеми токсикології, харчової та хімічної безпеки*. 2018. № 2-3. - С. 92- 95.
3. Гіалуронова кислота: біосинтез та використання / І. В. Лич, А. О. Угрин, І. М. Волошина. *Український біофармацевтичний журнал*. 2019. № 2. С. 6-13.
4. Zujkina S.S. The pharmacotechnological studies of the phytoppecies composition for the complex therapy of mastopathy / S.S. Zujkina, L.I. Vishnevskya. *Вісник фармації*. 2017. № 2 (90). С. 43-47.
5. Ігнашкіна Т. Б., Душина Л. М., Москалець Т. А. Світовий ринок парфумернокосметичної продукції: сучасні тенденції та перспективи розвитку. *Інфраструктура ринку*. 2020. Вип. 41. С. 87-93.
6. Лівінський А. І. Державне регулювання, сертифікація виробництва та реалізація органічної продукції в Україні. *Бізнес Інформ*. 2020. № 6. С. 167-173.
7. Consumption and exposure to finished cosmetic products: A systematic review / A.S. Ficheux, M.P. Gomez-Berrada, A.C. Roudot, P.J. Ferret. *Food Chem Toxicol*. 2019. Vol. 124. P. 280-299. doi: 10.1016/j.fct.2018.11.060.
8. Continuing animal tests on cosmetic ingredients for REACH in the EU. / J. Knight, C. Rovida, R. Kreiling, et al. *ALTEX*. 2021. Vol. 38(4). P. 653-668. doi: 10.14573/altex.2104221.

9. COSMOS next generation - A public knowledge base leveraging chemical and biological data to support the regulatory assessment of chemicals / C. Yang, M.T. Cronin, K.B. Arvidson, et al. *Comput Toxicol.* 2021. Vol. 19. P. 100 -175. doi: 10.1016/j.comtox.2021.100175.
10. Experiments in the EpiDerm 3D skin in vitro model and minipigs in vivo indicate comparatively lower in vivo skin sensitivity of topically applied aneugenic compounds / M. Schuler, L. Tomlinson, M. Homiski et al. *Toxicological Sciences.* 2021. Vol. 180, Iss. 1. P. 103–121. <https://doi.org/10.1093/toxsci/kfaa189>
11. Skin safety and health prevention: an overview of chemicals in cosmetic products / A. Panico, F. Serio, F. Bagordo et al. *J. Prev. Med. Hyg.* 2019. Vol. 60 (1). P. E50-E57. doi: 10.15167/2421-4248/jpmh2019.60.1.1080.
12. Zaporozhska S Development of foaming shampoo base for the treatment of Seborrheic Dermatitis./ Baranova I, Zaika S, Bezpala Y, Roik O, Zaporozhska S, Shostak L. *Journal of Advanced Pharmacy Education & Research.* 2020. № 10. 143 149.
13. Запорожська С. М., Сердюк Ю. В. // Порівняльний дисперсний аналіз основ з метою вибору оптимальної для створення крему репаративної дії // Матеріали X Міжнародної науково-практичної конференції “SCIENTIFIC ACHIEVEMENTS OF MODERN SOCIETY”, 27-29 мая 2020 года Ливерпуль, Великобритания – Liverpool, United Kingdom, 2020. – С.490-492.
14. Rybachuk V.D., Samodurova A.V. DEVELOPMENT OF COMPOSITION OF DERMATOLOGICAL CREAM WITH JOJOBA OIL AND D-PANTENOL //Науковий підхід до сфери практичної косметології: актуальні питання й тренди : матеріали Міжнародної науково-практичної конференції (11 березня 2020 р., м. Харків). – Х.: НФаУ, 2020. – С. 22-26.
15. Біофармацевтичні та структурно-механічні дослідження гелю для лікування вугрової хвороби / Гербіна Н.А., Шабан С.О. // Технологічні та біофармацевтичні аспекти створення лікарських препаратів різної направленості дії: матеріали IV Міжнародної науково-практичної інтернет – конференції (м. Харків, 14-15 листопада 2019 р.) – Х. : Вид-во НФаУ, 2019. С. 75-76.

Electronic information resources

1. [Технологія ліків ОНМедУ \(odmu.edu.ua\)](http://odmu.edu.ua) – сайт кафедри технології ліків ОНМедУ
2. [Бібліотека ОНМедУ \(odmu.edu.ua\)](http://odmu.edu.ua) - Наукова бібліотека ОНМедУ
3. www.moz.gov.ua – офіційний сайт Міністерства охорони здоров'я України
4. [Одеський національний медичний університет \(onmedu.edu.ua\)](http://onmedu.edu.ua) – офіційний сайт ОНМедУ
5. Державний реєстр лікарських засобів України. – [Електроний ресурс]. – Режим доступу: <http://www.drlez.com.ua/> – станом на 10.01.2017 р.

EVALUATION

Current control. Evaluation of the success of studying the topics of the discipline is carried out according to the traditional 4-point scale.

Methods and means of control: oral questioning; written survey; situational tasks, tests; practicing practical skills.

Oral control (participation in creative conversations, answers during the practical lesson) - current control in each classroom - traditional 4-point scale (no more than 75% of students). At the end of the study of the discipline, the current academic performance is calculated - the average current score (the arithmetic average of all current grades on the traditional scale, rounded to two decimal places). Only those students who do not have academic debt and have an average score for current educational activities of at least 3,00 are allowed to the final certification.

Independent work (performance of individual tasks and their defense during practical classes) - assessment is performed on the traditional 4-point scale, the deadline - during the course of the discipline.

The final control in the form for is assessed on a two-point scale.

Students who have fully completed the curriculum in the discipline do not have academic debt, their average current performance score is 3,00 or more, and in the last lesson they receive a credit that is set as «passed» / «not credited».

If the discipline ends with a **credit**, only the average score of the current performance is calculated, ie the arithmetic mean of all grades obtained on a traditional scale, rounded to two decimal places, which is converted to a 200-point system.

Conversion of the traditional grade in the discipline into a 200-point grade is carried out by the information and computing center of the «Contingent». Conversion of the traditional national assessment into a multi-point one (maximum 200 points) is required.

No bonus points will be awarded.

Independent work of students

The work of students consists of self-study with a specific list of topics that require in-depth study. The question from the topics allocated for self-study is included in the corresponding control activities and is controlled in the form of writing abstracts (IWS) and preparation of presentations. Assessment of independent work is carried out according to the traditional 4-point scale, the term of completion is during the course of the discipline.

COURSE POLICY («rules of the game»):

Deadline and retake policy.

The final control is carried out in the audience in the penultimate week. In the absence or low result, the final written control is shifted at a time in the last week on the day of the scheduled consultation (Thursday from 15.00 to 16.00). In case of non-compliance with the policy on deadlines and translation, the control measures are not taken into account.

Policy on Academic Virtue: the course involves writing abstracts (IWS), which will be tested for academic virtue (according to the Regulations on the Commission on Academic Virtue of Odessa National Medical University).

Attendance and lateness policy: attendance at lectures and workshops is compulsory, late arrivals are not advisable. Points for attending classes are not awarded. Illness is considered a good reason for absence from classes, confirmed by a certificate from a doctor (sick leave).

Mobile devices: with the permission of the teacher, it is allowed to use a smartphone, tablet or other device for storing and processing information.

Behavior in class or remotely on Microsoft Teams: active, business and creative atmosphere.