

**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS**  
Educational Institution  
«BELARUSIAN STATE MEDICAL UNIVERSITY»

**APPROVED**

by Rector of the Educational  
Institution «Belarusian State  
Medical University»

S.P. Rubnikovich

Reg. # UD- 08-114/252.6 /elect.

Контрольный  
экземпляр

**PHARMACEUTICAL COSMETOLOGY**

**Curriculum of the elective discipline of the educational institution  
for the specialty**

**1-79 01 08 «Pharmacy»**

Curriculum is based on the educational program of the elective discipline «Pharmaceutical Cosmetology», approved 26.06.2025, registration # УД-01-109/2526/д.; on the educational plan in the specialty 1-79 01 08 «Pharmacy» approved 16.04.2025, registration # 7-07-0912-01/2526/mf.

#### **COMPILERS:**

N.S.Goliak, Head of the Pharmaceutical Technology Department with a course for advanced training and retraining of the Educational Institution «Belarusian State Medical University», Ph.D., Associate Professor;

O.G.Sečko, Associate Professor of the Pharmaceutical Technology Department with a course for advanced training and retraining of the Educational Institution «Belarusian State Medical University», Ph.D.

#### **RECOMMENDED FOR APPROVAL:**

by the Department of Pharmaceutical Technology with a course for advanced training and retraining of the Educational Institution «Belarusian State Medical University» (protocol # 14 dated 14.06.2025);

by the Methodological Commission of Pharmaceutical Disciplines of the Educational Institution «Belarusian State Medical University» (protocol # 10 dated 26.06.2025);



## EXPLANATORY NOTE

«Pharmaceutical Cosmetology» is the elective discipline that combines systematized scientific knowledge about the main types of cosmetics, their classification, compositional characteristics, active and auxiliary substances, requirements for formulation, technology of modern cosmetics for therapeutic and preventive purposes, the main indicators of their quality, types of impact of cosmetic products, principles of formulation and production, depending on the form of release and the type of dispersed system.

The aim of the elective discipline «Pharmaceutical Cosmetology» are to form students' scientific knowledge and skills in the development of the composition and manufacture of medical and preventive cosmetics of various forms of release, both in industrial conditions and in a pharmacy.

The objectives of the elective discipline are to form competencies, the basis of which is knowledge and application of:

skills and abilities to analyze the composition of obtained cosmetics, in order to select the methods of their most effective use;

rational technology of cosmetics, depending on the composition;

quality indicators of cosmetic products of various forms of release.

### **Relations to other academic disciplines**

The knowledge, skills and abilities acquired during the study of the elective discipline «Pharmaceutical Cosmetology» are necessary for successful mastering of the following academic disciplines: «Pharmaceutical Development with the Fundamentals of Biopharmaceutics», «Industrial Technology of Drugs», «Pharmaceutical Chemistry», «Pharmaceutical Merchandising», «Modern Methods of Analysis and Standardization of Drugs».

**As a result of studying the elective discipline «Pharmaceutical Cosmetology», the student should**

#### **know:**

basic concepts in the field of pharmaceutical cosmetology;

nomenclature and properties of ingredients used in pharmaceutical cosmetology;

main stages, operations and techniques used in the manufacture of cosmetics;

characterization of containers, auxiliary and closure materials used for cosmetics;

#### **be able to:**

select the optimal composition of pharmaceutical cosmetics;

to manufacture pharmaceutical cosmetics taking into account the properties of the ingredients;

#### **master:**

skills in the manufacture of pharmaceutical cosmetics.

**Total number** of hours for the study of the elective discipline is 90 academic hours, of which 39 classroom hours and 51 hours of independent student work. Classroom hours according to the types of studies: 12 hours of lectures (including 6 hours of supervised independent work (SSIW)), 27 hours of laboratory classes.

Form of higher education – full-time.



Intermediate assessment is carried out according to the syllabus of the specialty in the form of a credit (7 semester).

### ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	Semester	Total number of academic hours	Number of classroom hours				Out-of-class self-studies	Form of intermediate assessment
			Number of classroom hours	including		laboratory classes		
				lectures				
				class lectures	SSIW			
1-79 01 08 «Pharmacy»	7	90	39	6	6	27	51	Credit

### THEMATIC PLAN

Section name (topic)	Number of class hours	
	lectures (incl. SSIW)	laboratory
1. Skin as an object of influence of cosmetics. Terminology and classification of cosmetics. Active and auxiliary substances in the composition of cosmetics	1,5	3
2. Basics of cosmetic chemistry	1,5	3
3. Cosmetic creams and gels	1,5	3
4. Cosmetic lotions and tonics	1,5	3
5. Foaming detergents for therapeutic and prophylactic purposes. Shampoos	1,5	3
6. Toothpastes	1,5	3
7. Sunscreens. UV filters	1,5	3
8. Cosmetic masks, scrubs and cosmetic peels	1,5	3
9. Deodorants and antiperspirants. Aromatherapy cosmetics		3
<b>Total hours</b>	<b>12</b>	<b>27</b>



## **CONTENT OF EDUCATIONAL DISCIPLINE**

### **1. Skin as an object of influence of cosmetics. Terminology and classification of cosmetics. Active and auxiliary substances in the composition of cosmetics**

The structure and function of the main layers of the skin. Cosmetic aspects of the skin. Skin types. Skin permeability and ways to improve it. Terminology and classification of cosmetics. Active ingredients in cosmetics. The main groups of excipients used in the composition of cosmetics. Functional purpose of auxiliary substances in cosmetic products.

### **2. Basics of cosmetic chemistry**

Emulsifiers, surfactants, solvents, emollients, preservatives, dyes, fragrances, vitamins, antioxidants, organic acids and extracts obtained from medicinal plant raw materials used in cosmetics.

### **3. Cosmetic creams and gels**

Classification of cosmetic creams and cosmetic gels. Requirements for cosmetic creams and gels. Active ingredients and excipients in cosmetic creams and gels. The principle of developing cosmetic cream and gel compositions depending on their intended use. Manufacturing technology for cosmetic creams and gels. Quality control of cosmetic creams and gels.

### **4. Cosmetic lotions and tonics**

Classification of cosmetic lotions and tonics. Requirements for cosmetic lotions and tonics. Active and auxiliary ingredients in cosmetic lotions and tonics. The principle of developing the composition of cosmetic lotions and tonics depending on their intended use. Manufacturing technology for cosmetic lotions and tonics. Quality control of cosmetic lotions and tonics.

### **5. Foaming detergents for therapeutic and prophylactic purposes. Shampoos**

Classification of foaming detergents. Requirements for shampoos. Active and auxiliary ingredients in shampoos. Principles of developing shampoo composition depending on the intended use. Shampoo manufacturing technology. Shampoo quality control.

### **6. Toothpastes**

Classification of toothpastes. Requirements for toothpastes. Active and auxiliary ingredients in toothpastes. The principle of developing toothpaste compositions depending on their intended use. Toothpaste manufacturing technology. Quality control of toothpastes.

### **7. Sunscreens. UV filters**

Electromagnetic radiation of the sun, ultraviolet radiation, ultraviolet rays A, B and C, the depth of penetration of ultraviolet rays into the skin. Environmental factors affecting the level of UV radiation. UV index. Sun protection factors. Classification of UV filters. Characteristics of inorganic and organic UV filters. UVA filters, UVB filters, broad-spectrum UV filters. Study of the range of sunscreens available in pharmacies. The principle of developing sunscreen compositions.

### **8. Cosmetic masks, scrubs and cosmetic peels**

Classification of cosmetic masks, scrubs and peels. Requirements for cosmetic



masks, scrubs and peels. Active ingredients and excipients in cosmetic masks, scrubs and peels. The principle of developing the composition of cosmetic masks, scrubs and peels depending on their intended purpose. Manufacturing technology for cosmetic masks, scrubs and peels. Quality control of cosmetic masks, scrubs and peels.

### **9. Deodorants and antiperspirants. Aromatherapy cosmetics**

Classification of deodorants and antiperspirants. Requirements for deodorants and antiperspirants. Active ingredients and excipients in deodorants and antiperspirants. The principle of developing deodorant and antiperspirant compositions depending on their intended use. Manufacturing technology for deodorants and antiperspirants. Quality control of deodorants and antiperspirants.



# **ELECTIVE DISCIPLINE «PHARMACEUTICAL COSMETOLOGY» CURRICULAR CHART**

Section, topic #	Section (topic) name	Number of class hours		Supervised student independent work	Literature	Practical skills	Forms of control	
		lectures	laboratory				of practical skills	of current/ intermediate assessment
	<b>Lectures</b>	<b>6</b>	-	<b>6</b>				
1.	Skin as an object of influence of cosmetics. Terminology and classification of cosmetics. Active and auxiliary substances in the composition of cosmetics	1,5	-	-	1-7			
2.	Basics of cosmetic chemistry	1,5	-	-	1-7			
3.	Cosmetic creams and gels	1,5	-	-	1-7			
4.	Cosmetic lotions and tonics	1,5	-	-	1-7			
5.	Foaming detergents for therapeutic and prophylactic purposes. Shampoos	-	-	1,5	1-7			Survey; testing; defense of the report
6.	Toothpastes	-	-	1,5	1-7			Survey; testing; defense of the report
7.	Sunscreens. UV filters	-	-	1,5	1-7			Survey; testing; defense of the report
8.	Cosmetic masks, scrubs and cosmetic peels. Deodorants and antiperspirants. Aromatherapy cosmetics	-	-	1,5	1-7			Survey; testing; defense of the report
	<b>Laboratory classes</b>	-	<b>27</b>	-				
1.	Skin as an object of influence of cosmetics. Terminology and classification of cosmetics. Active and auxiliary substances in the composition of cosmetics	-	3	-	1-7			Survey; defense of the report; solving situational problems



2.	Basics of cosmetic chemistry	-	3	-	1-7	Manufacturing of protective hygienic lipstick	Laboratory work report	Survey; defense of the report; solving situational problems
3.	Cosmetic creams and gels	-	3	-	1-7	Manufacturing of moisturizing hand cream	Laboratory work report	Survey; defense of the report; solving situational problems
4.	Cosmetic lotions and tonics	-	3	-	1-7	Manufacturing of hydrophilic oil for washing the body	Laboratory work report	Survey; defense of the report; solving situational problems
5.	Foaming detergents for therapeutic and prophylactic purposes. Shampoos	-	3	-	1-7	Manufacturing of natural cleanser «Ubtan»	Laboratory work report	Survey; defense of the report; solving situational problems
6.	Toothpastes	-	3	-	1-7	Manufacturing of moisturizing lip balm	Laboratory work report	Survey; defense of the report; solving situational problems
7.	Sunscreens. UV filters	-	3	-	1-7			Survey; defense of the report; solving situational problems
8.	Cosmetic masks, scrubs and cosmetic peels	-	3	-	1-7			Survey; defense of the report; solving situational problems
9.	Deodorants and antiperspirants. Aromatherapy cosmetics	-	3	-	1-7			Survey; defense of the report; solving situational problems.
	<b>Total hours</b>	<b>6</b>	<b>27</b>	<b>6</b>				<b>Credit</b>



## INFORMATION AND INSTRUCTIONAL UNIT LITERATURE

### **Basic (relevant):**

1. Pharmaceutical compounding and dispensing / J. F. Mariott, K. A. Wilson, C. A. Langley, D. Belcher. – Great Britain, 2023. – 305 p.

### **Additional:**

2. Pharmacy Technology of Medicines : Dosing, Technology of Powders : manual / N. S. Golyak, O. G. Sechko. – Minsk : BSMU, 2022. – 50
3. Krist, S. Vegetable fats and oils / S.Krist. – Springer, 2020. – 832 p.

### **Electronic courseware for the elective academic discipline «Pharmaceutical Cosmetology»:**

4. <https://etest.bsmu.by/course/view.php?id=1252>.

## **METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE**

The time allocated for independent work can be used by students for:

- preparing for lectures and laboratory classes;
- preparing for credit in the academic discipline;
- studying the topics designed for independent work;
- completing research and creative assignments;
- preparing thematic reports, essays and presentations;
- taking notes from academic literature;
- compiling a review of scientific literature on the assigned topic.

## **METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE**

### **APPROXIMATE LIST OF TASKS FOR SUPERVISED STUDENT INDEPENDENT WORK:**

preparation of thematic reports, papers and presentations;  
summarizing primary sources (textbooks, etc.).

### **FORMS OF CONTROL OF SUPERVISED STUDENT INDEPENDENT WORK:**

survey;  
testing;  
defense of the report.

## **LIST OF AVAILABLE DIAGNOSTIC TOOLS**

The following forms of current certification are used to diagnose competencies:

survey;  
defense of the report;  
solving situational problems.



### LIST OF AVAILABLE TEACHING METHODS

Traditional method;

active (interactive) methods:

Research-Based Learning.

### LIST OF PRACTICAL SKILLS

Name of practical skills	Form of practical skills control
1. Manufacturing of protective hygienic lipstick	Laboratory work report
2. Manufacturing of moisturizing hand cream	Laboratory work report
3. Manufacturing of hydrophilic oil for washing the body	Laboratory work report
4. Manufacturing of natural cleanser «Ubtan»	Laboratory work report
5. Manufacturing of moisturizing lip balm	Laboratory work report

### LIST OF SIMULATION EQUIPMENT USED

1. Presentation equipment (multimedia projector, screen, computer for control).
2. Computer lab with internet access.
3. WLC 0.6/B1 electronic laboratory scale.
4. Scout Pro SPU 601 electronic scale.
5. VEM-150 electronic medical scale.
6. VSM-1.5, 20 and 100 bulk material scales.
7. General-purpose weights, class 4, from 10 mg to 500 g.
8. Glass laboratory thermometer.
9. EPI1-1.0/220 electric hotplate.
10. BV-04 water bath.
11. Volumetric glass laboratory glassware.
12. Porcelain mortars and pestles.
13. Glass storage bottles, 30 ml.
14. Plastic storage containers, 20 ml.



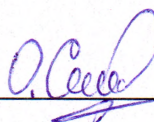
**COMPILERS:**

Head of the Department of  
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Associate Professor, PhD



N.S. Golyak

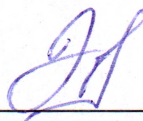
Associate Professor of the Department  
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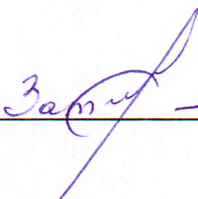
Curriculum content, composition and the accompanying documents comply with the  
established requirements.

Head of the Office of Educational  
Activities of the Educational  
Institution «Belarusian State Medical  
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I.L. Kotovich

Methodologist of the Educational and  
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S.V. Zaturanova