

Subject card

Subject name and code	Cosmetics chemistry, PG_00154029						
Field of study	Medical Biology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Beata Grobelna, prof. UG				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		3.0		17.0	50
Subject objectives	familiarizing students with cosmetic terminology and nomenclature.						
	familiarizing students with the properties of raw materials for the production of cosmetics.						
	developing the ability to use chemical knowledge to assess the possibility of producing selected cosmetics on an industrial scale						
	selecting optimal raw materials to obtain a specific product						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMEDMU2_K01] is ready to critically evaluate himself, the teams in which he works and the content he receives	is careful when handling raw materials for the production and analysis of cosmetic products,	[SK1] oral statement/conversation/discussion
	[BIOLMEDMU2_K02] is ready to recognize the importance of knowledge in solving cognitive and practical problems and to seek expert advice when having difficulty solving a problem on his own	maintains an environmentally friendly attitude during the production of cosmetics and demonstrates the idea of mutual relations between man and the environment,	[SK8] observation of student's independent or team work
	[BIOLMEDMU2_W02] is oriented to the currently debated problems in medical biology and related disciplines	recognizes and compares the most important properties of ingredients in cosmetic products	[SW1] oral statement/conversation/discussion
	[BIOLMEDMU2_W01] has an in-depth knowledge of scientific fields and disciplines relevant to medical biology and the studied specialty and knows their main development trends	independently searches for information in cosmetic literature	[SW4] test/exam - oral or written
Subject contents	Emulsion structure, properties, stages of emulsion formation, stability and instability of the emulsion system. Natural and synthetic emulsifiers, selection and operation of emulsifier, HLB emulsifier. Cosmetic emulsions: chemical characterization of raw materials, INCI nomenclature, formulation. Active ingredients in cosmetics: vitamins, liposomes, proteins, peptides, lipids, ceramides, substances of origin plant. UV filters (physical and chemical). Antimicrobial compounds (preservatives, deodorants, antiperspirants). Antioxidants: characteristics of compounds, action of antioxidants in cosmetic products. Fragrance compounds: natural and synthetic, isolation, formulation. Surface-active compounds (soaps, detergents, shampoos), their characteristics and biodegradation. Chemistry of color cosmetics: (hair dyes, blushes, powders, mascaras, lipsticks), characteristics of basic raw materials and production stages. Means used in oral hygiene (toothpastes, mouthwashes, powders and bleaches). Classification of all discussed article components cosmetics was based on functional groups or chemical systems present in the structure of the connections.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test - open questions	51.0%	100.0%
Recommended reading	Basic literature	1. Zarys Chemii Kosmetycznej Wiesław Malinka 2. Zarys Chemii i Technologii Kosmetyków Janina Marcinkiewicz-Salmonowiczowa 3. Chemia piękna Marcin Molski 4. Technologia kosmetyków Władysław Brud, Ryszard Glinka 5. Receptura kosmetyczna Ryszard Glinka 6. "Chemia kosmetyczna" Alina Sionkowska	
	Supplementary literature	Kosmetologia i farmakologia skóry M.C.Martin	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	Name 4 preservatives. List the stages of lipstick production. List the ingredients of nail polish.	
Work placement	Not applicable		

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