



Subject card

Subject name and code	Cosmetic raw materials I, PG_00069014						
Field of study	Cosmetic technologies						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2026/2027	
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study	
Mode of study	Full-time studies		Mode of delivery			at the university	
Year of study	2		Language of instruction			Polish	
Semester of study	3		ECTS credits			5.0	
Learning profile	general academic profile		Assessment form			exam	
Conducting unit	Department of Biotechnology and Microbiology -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Patrycja Szumała				
	Teachers		dr hab. inż. Patrycja Szumała				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=6097						
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	60		5.0		60.0	125
Subject objectives	The aim of the course is to acquire competences in the division, properties and application of cosmetic raw materials, to independently prepare selected cosmetic ingredients and to determine the basic physicochemical and functional parameters of selected cosmetic raw materials.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_W02] explains the structure and functions of cosmetic raw materials and methods and instruments for determining their quantity, quality and activity		Can classify cosmetic raw materials based on their properties, function in the product, and cosmetic effects. Demonstrates knowledge and ability to determine the impact of various factors on the quality of cosmetic raw materials.			[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects	
	[K6_W03] selects methods and processes for producing various forms of cosmetics		Is able to produce various forms of cosmetic extracts and has knowledge about the synthesis of selected cosmetic ingredients.			[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects	

Subject contents	Course content – lecture The structure, properties, and effects of hydrophobic cosmetic raw materials and ingredients, such as lipids and their derivatives, mineral oils, silicones, and others, as well as hydrophilic ingredients, such as alcohols, polyols, and others. The uses and functions of specific groups of cosmetic ingredients, such as emulsifiers, antioxidants, vitamins, thickeners, preservatives, abrasives, and other additional ingredients.		
	Course content – laboratory Production of various forms of plant extracts. Study of the physicochemical, sensory, and application properties of selected raw materials and cosmetic ingredients. Analysis of the quality of selected cosmetic raw materials and examination of the impact of various parameters (e.g., temperature, UV) on cosmetic product quality. Synthesis of a selected cosmetic emulsifier.		
Prerequisites and co-requisites	No requirements.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam	50.0%	60.0%
	Average grades for laboratory tests and reports	100.0%	40.0%
Recommended reading	Basic literature	Marzec Alicja, <i>Chemia kosmetyków: surowce, półprodukty, preparatyka wyrobów</i> , Towarzystwo Naukowe Organizacji i Kierownictwa „Dom Organizatora”, Toruń ,2009 Glinka Ryszard, Marzena Glinka, <i>Receptura kosmetyczna z elementami kosmetologii</i> . Tom 1, Wydanie 2, Oficyna Wydawnicza MA, Łódź, 2008 Jabłońska – Trypuć Agata, Czerpak Romuald, <i>Surowce kosmetyczne i ich składniki</i> wyd.1, Med. Pharm Wrocław, 2008	
	Supplementary literature	André O. Barel, Marc Paye, Howard I. Maibach, <i>Handbook of Cosmetic Science and Technology</i> 4th Edition, CRC Press Published, 2014. Williams, D. F., and W. H. Schmitt, editors. <i>Chemistry and Technology of the Cosmetics and Toiletries Industry</i> . Springer, 1992	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Present a general classification of cosmetic ingredients based on their functions in a cosmetic product. 2. What is the emollient effect of cosmetic ingredients? 3. Discuss what analyses are used to determine the quality of vegetable oils?		
Practical activities within the subject	Not applicable		

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