



Subject card

Subject name and code	Analysis of raw materials and products in cosmetics, PG_00060784						
Field of study	Analiza surowców i produktów w kosmetyce						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Optional subject group 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	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		4.0		
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						
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=2747						
	Moodle ID: 2747 Analiza surowców i produktów w kosmetyce 2025/2026 https://enauczanie.pg.edu.pl/2025/course/view.php?id=2747						
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		35.0	100
Subject objectives	Learning theoretical and practical issues related to the analysis of raw materials and cosmetic products, necessary in the technological process and concerning their quality and safety of use						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W02] has knowledge of inorganic, organic, physical and analytical chemistry useful for obtaining selected groups of compounds, determining their physical and chemical properties allowing for their quantitative and qualitative analysis, making measurements and determining the parameters of chemical reactions, phenomena and processes occurring in chemical technology	Knows basic information about the production and processing of fatty raw materials	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
	[K6_W08] has knowledge of raw materials and products in cosmetics, fat chemistry and technology, knows the technology of obtaining cosmetic products and methods of assessing their properties	Is able to examine the properties of cosmetic products and, based on this information, assess their quality	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
	[K6_U03] is able to apply knowledge of inorganic, organic, physical and analytical chemistry and identify appropriate sources of information to design and synthesize simple chemical compounds, carry out basic physicochemical and analytical measurements	Is able to use basic instrumental analysis tools to assess the quality of raw materials and methods for measuring physicochemical parameters of cosmetic products	[SU4] Ocena umiejętności korzystania z metod i narzędzi [SU2] Ocena umiejętności analizy informacji
	[K6_K02] understands the non-technical aspects and implications of the activities of a chemical engineer, including the impact on the environment, is aware of professional behaviour, observance of professional ethics and respect for diversity of views and cultures	Knows the difference between natural, organic, and ecological raw materials. Can explain what natural/organic cosmetic products are	[SK4] Ocena umiejętności komunikacji, w tym poprawności językowej [SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce
	[K6_U09] has the ability to analyze fatty raw materials and their use in chemical products and the development of various forms of cosmetic preparations, recognizes systemic and non-technical aspects in the evaluation of their properties	Is able to evaluate the quality and use of various fatty raw materials and their derivatives in the cosmetics industry.	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu [SU2] Ocena umiejętności analizy informacji

Subject contents	Course content – lecture 1. Instrumental Analysis of Selected Fatty Raw Materials and Other Cosmetic Ingredients 2. Physicochemical and Microscopic Analysis of Various Cosmetic Structures 3. Basic Measurements of the Physicochemical Properties of Cosmetics 4. Analysis of Destabilization Processes in Cosmetics 5. Analysis of the Rheological Properties of Various Cosmetic Formulations 6. Microbiological Analysis of Cosmetics		
	Course content – laboratory 1. Stability and compatibility testing of selected cosmetic masses 2. Qualitative and quantitative assessment of fatty raw materials 3. Purity and stability analysis of selected cosmetic raw materials 3. Basic microbiological analysis of cosmetics		
Prerequisites and co-requisites	-		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	reports and tests	100.0%	40.0%
	written exam	50.0%	60.0%
Recommended reading	Basic literature	Amparo Salvador and Alberto Chisvert, Analysis of Cosmetic Products, Elsevier Science 2017 Kalliopi Dodou, Current and Evolving Practices in the Quality Control of Cosmetics, Mdpi AG, 2022.	
	Supplementary literature	Alastair J Gilchrist, Making Quality Cosmetics: Good Manufacturing Practice and ISO 22716:2007 André O. Barel, Marc Paye, Howard I. Maibach, Handbook of Cosmetic Science and Technology, CRC Press, 2009	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Analysis of the purity and acid composition of vegetable oils. 2. Assessment of the stability of cosmetic emulsions.		
Practical activities within the subject	Not applicable		

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