GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Basics of Cosmetics Production and Testing, PG_00060884		
Field of study	Chemical Technology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2026/2027
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	5	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
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. Adam Macierzanka	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	15.0	0.0	0.0	30

E-learning hours included: 0.0

eNauczanie source address: https://pg.edu.pl/2025/course/view.php?id=2683

Moodle ID: 2683 Podstawy produkcji i badania kosmetyków 2025/26 https://enauczanie.pg.edu.pl/2025/course/view.php?id=2683

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	5.0	40.0	75

Subject objectives

Gaining knowledge of the technology of preparation, composition, analysis and the use of various groups of cosmetic products.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U02] is able to operate typical laboratory apparatus and conduct analyses related to materials testing	The student has acquired the skills to use laboratory equipment and analytical procedures required to carry out basic material analyses of cosmetic raw materials and products.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools
[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	The student has an organized knowledge of the chemistry and technology of fats, knows the technology of production of cosmetic products and methods for assessing their properties	[SW1] Assessment of factual knowledge
[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	The student has the ability to analyze fatty raw materials and their use in chemical industry products and create various forms of cosmetic preparations, sees systemic and non-technical aspects in the assessment of their properties.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Structure and function of human skin. Compounds reported to increase the skin barrier. Types of cosmetic products and their effects. Materials used in cosmetics and criteria of their selection, with particular emphasis on biologically active materials. Cosmetic emulsions and their structure and stabilization methods. The surfactants in cosmetics. The technology for producing various types of cosmetic emulsions. Haircare: shampoos, conditioners, conditioning cosmetics. Make-up cosmetics. Powders, shadows, mascaras, lipstick, etc. Technology of perfume products. Technology of deodorants. Regulations concerning cosmetic materials and cosmetic products.

Course content – laboratory
The laboratory classes are divided into several practical exercises that allow students to apply the knowledge gained during lectures to produce model cosmetic products: a body wash, a cosmetic emulsion, a cleansing liquid, a face mask, a scrub, and a colour cosmetic. These products are manufactured on the basis of formulations and recipes prepared specifically for the laboratory classes.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Basic knowledge of organic chemistry and selected analytical methods.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Written exam</td><td>50.0%</td><td>60.0%</td></tr>
<tr><td>Laboratory</td><td>100.0%</td><td>40.0%</td></tr>
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</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. J. Marcinkiewicz - Salmonowiczowa, Zarys chemii i technologii kosmetyków, Wyd. Politechniki Gdańskiej, Gdańsk, 1995. 2. W.S. Brud, R. Glinka, Technologia Kosmetyków, Oficyna Wydawnicza, Łódź, 2001. 3. M.M. Rieger, Surfactants in Cosmetics, M. Dekker, Inc. New York, 1985. 4. L. Ho Tan Tai, Formulating Detergents and Personal Care Products, AOCS Press, Champaing, 2000. 5. Analysis of Cosmetic Products, ed. A. Salvador, A.Chisvert, Elsevier, Amsterdam, 2007.</td></tr>
<tr><td>Supplementary literature</td><td>6. J. Przondo, Związki powierzchniowo czynne i ich zastosowanie w produktach chemii gospodarczej , Wydawnictwo Politechniki Radomskiej, 2007. 7. K. Gawrońska, K. Kacprzak, Chemia kosmetyczna: ćwiczenia laboratoryjne; UAM, Warszawa 2008. 8. R. Glinka, M. Glinka; Receptura kosmetyczna z elementami kosmetologii: tom 1; Oficyna Wydawnicza MA, Łódź, 2008</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Those will be directly related to the topics described above in the "Class structure" section.</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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