GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Engineering diploma project I, PG_00060775						
Field of study	Chemical Technology						
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	2.0			
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 inż. Ilona Kłosowska-Chomiczewska					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	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		2.0	18.0	50	
Subject objectives	The aim of the course is to prepare the student for the independent implementation of an engineering diploma project in the field of cosmetic technology and analysis. The course is intended to develop the students ability to formulate a research problem, plan and conduct research or design work, analyze and interpret results, and prepare a diploma thesis in accordance with the principles of scientific writing.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W12] knows the chemical nomenclature in Polish and specialized terms related to chemical technology	The student is familiar with and understands chemical nomenclature in Polish as well as specialized terminology used in chemical engineering, particularly as it relates to the topic of their engineering thesis. The student is able to correctly apply this terminology when describing technological processes, materials, equipment, and research results, as well as when analyzing scientific and technical literature related to the thesis topic.	[SW3] Assessment of knowledge contained in written work and projects
[K6_U01] is able to acquire information from literature, databases and other appropriately selected sources, also in English; is able to integrate information obtained, interpret it and make conclusions, formulate and justify opinions	The student is able to search for, analyze, and utilize information from scientific and technical literature (including English-language sources) in order to develop and justify the solutions presented in the engineering thesis.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
[K6_K01] understands the need for continuing education, and is aware of the opportunities to improve professional, personal and social competences	The student is aware of the need to systematically expand their knowledge and refine the skills necessary to complete their engineering thesis and pursue further professional development in the field of chemical technology.	[SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice
[K6_U11] individually plans and implements his/her own learning	Students independently plan and carry out their own learning process, particularly with regard to expanding and deepening their knowledge related to the topic of their engineering thesis. Students are able to identify their needs for new information, search for and analyze scientific literature and technical sources, and apply the knowledge they have acquired to tasks related to the preparation of their engineering thesis.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information

Subject contents

Course content – project
The course content includes an introduction to the principles of conducting an engineering diploma project and a discussion of the requirements for preparing the diploma thesis. Students select and refine the topic of their thesis and conduct a review of scientific literature and other sources related to the project topic. During the course, the aim, scope, and research problem of the thesis are formulated.

Students develop a plan for the implementation of the project and select appropriate research or design methods, including those used in cosmetic technology and cosmetic analysis. The course also includes the development of the research or design concept of the thesis and the analysis and interpretation of the obtained results.

During the course, students prepare successive parts of the diploma thesis and learn the principles of scientific writing as well as proper presentation of results and conclusions. The course also includes preparation for presenting the results and for the defense of the diploma thesis.

Prerequisites and co-requisites

Basic knowledge in the fields of chemistry, cosmetic technology, and cosmetic analysis. Familiarity with basic laboratory techniques and the ability to use scientific literature and databases. Basic knowledge of the principles of scientific writing and a command of English sufficient to use professional literature are also recommended.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Presentations	60.0%	50.0%
Reports	60.0%	50.0%

Recommended reading

Basic literature

Benson H.A.E., Roberts M.S., LeiteSilva V.R. & Walters K., Cosmetic Formulation: Principles and Practice, CRC Press, 2019.
Iwata H. & Shimada K., Formulas, Ingredients and Production of Cosmetics, Springer Japan, 2013.
Dreher F., Jungman E., Sakamoto K., Maibach H.I. (eds.), Handbook of Cosmetic Science and Technology, 5th ed., CRC Press, 2022.
Alexander K. & Romanowski P. (eds.), Cosmetic Science: Formulation and Technologies, Springer Nature, 2026.
Flick E.W., Cosmetic and Toiletry Formulations, Second Edition, Volume 2, William Andrew (Elsevier), 1992.

	Supplementary literature	Cosphatec Formulation Handbook an industry PDF document containing practical examples of cosmetic formulations and descriptions of Cosphatecs natural ingredients. Selected scientific articles from industry journals on new technologies in cosmetology (e.g., International Journal of Cosmetic Science, Cosmetics, Journal of Cosmetic Dermatology). Standards and regulations regarding cosmetics, including EU Regulation (EC) No.1223/2009 and national legislation. Scientific and promotional materials on innovative cosmetic ingredients published by manufacturers and research institutes.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Prezentacja: Sformułuj i uzasadnij cel swojej pracy inżynierskiej. Opracuj propozycję spisu treści w oparciu o wytyczne uczelni dotyczące przygotowania prac inżynierskich i magisterskich. Przeanalizuj i wyszukaj przykłady metodyk, które mogą być pomocne przy realizacji celu pracy. Zaprojektuj stanowisko pracy wykorzystujące wybraną metodykę badawczą.	
Practical activites within the subject	Not applicable	

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