GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Industrial chemometrics, PG_00035170		
Field of study	Engineering and Technologies of Energy Carriers		
Date of commencement of studies	February 2022	Academic year of realisation of subject	2022/2023
Education level	second-cycle studies	Subject group	Obligatory subject group 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	2.0
Learning profile	practical profile	Assessment form	assessment
Conducting unit	Department of Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Jan Mazerski	
	Teachers		

Lesson types and methods of instruction

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

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

Through the subject matter of the course, the student learns the basics of chemometric techniques applicable to industry and is able to pose a scientific problem and solve it using the techniques learnt, making measurements along the way in accordance with the art of chemometrics.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_W03	The student learns the basics of chemometric techniques that are used in industry, and is able to pose a scientific problem and solve it using the techniques learnt, making measurements along the way in accordance with the art of chemometrics.	[SW1] Assessment of factual knowledge
K7_U07	The student is able to plan an optimal measurement plan according to the rules of planning experiments and to adapt it to the needs of the problem to be solved.	[SU5] Assessment of ability to present the results of task

Subject contents

- Data control
- Analysis of single variables
- Paired analysis of variables
- Multivariate analysis of variables
- Principal component analysis
- Planning of experiments
- Dependency modelling

Prerequisites and co-requisites

Skilled in the use of spreadsheet (Excel, Numbers, Google Sheets, etc.).

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
project	60.0%	50.0%
exam	60.0%	50.0%

Recommended reading

Basic literature	Jan Mazerski, "Chemometria praktyczna", Wydawnictwo Malamut.
Supplementary literature	Jan Mazerski, "Chemometria praktyczna", Wydawnictwo Malamut.
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	1) Performing a project involving the extraction of useful information from a multidimensional, self-created data set. 2) Designing measurements to model the process of obtaining the selected product, based on a range the input parameters.
Work placement	Not applicable