GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00069398		
Field of study	Technika próżniowa i kriogeniczna		
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	5	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Bogusław Kusz	
	Teachers	prof. dr hab. inż. Bogusław Kusz	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	0.0	0.0	30

E-learning hours included: 0.0

eNauczanie source addresses:

Moodle ID: 2034 Technika próżniowa i kriogeniczna
https://enauczanie.pg.edu.pl/2025/course/view.php?id=2034

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	3.0	17.0	50

Subject objectives

Use vacuum and cryo techniques to characterize materials.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U02] Can operate typical laboratory equipment and analyze material tests	The student is able to operate typical laboratory equipment.	[SU4] Ocena umiejętności korzystania z metod i narzędzi
[K6_U05] can learn independently	The student is able to act independently.	[SU4] Ocena umiejętności korzystania z metod i narzędzi
[K6_K01] Understands the need to improve professional and personal competencies; is conscious of own limitations and knows when to turn to experts, properly establishes priorities helping to accomplish tasks defined by oneself or others.	The student improves professional competences in the field of experimentation.	[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce
[K6_W04] Knows selected aspects of construction and operation of scientific equipment in materials engineering.	The student knows selected aspects of the construction and operation of cryo and vacuum equipment.	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym

Subject contents

Course content – laboratory
Research on the properties of modern materials used in energy conversion, also at low temperatures and in a vacuum.

Prerequisites and co-requisites

The desire to learn.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
evaluation of test reports	60.0%	100.0%

Recommended reading

Basic literature	Internet

	Supplementary literature	none
	eResources addresses	Supplementary https://enauczanie.pg.edu.pl/2025/my/courses.php - e-course
Example issues/ example questions/ tasks being completed	Measuring low resistances at low temperatures. Vacuum in low-temperature material testing.	
Practical activites within the subject	Not applicable	

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