GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Physics, PG_00055900		
Field of study	Power Engineering, Power Engineering, Power Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	first-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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Zakład Automatyki i Energetyki Morskiej -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Małgorzata Śmiałek-Telega	
	Teachers	dr hab. inż. Małgorzata Śmiałek-Telega	

Lesson types and methods of instruction

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

Acquisition of basic knowledge in selected branches of physics, both classical and modern. Acquiring the skills of qualitative understanding of selected principles and laws of classical physics and modern and quantitative analysis of selected phenomena in this area

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W02] has a basic knowledge of physics (including optics, electricity and magnetism), chemistry, technical thermodynamics, fluid mechanics and general mechanics needed to understand and describe the basic phenomena occurring in devices and systems, energy plants and transmission networks and their environment	Students understand the principle of operation of semiconductor elements and their application in electronics, understand the principle of operation of nuclear electrons.	[SW1] Assessment of factual knowledge
[K6_U01] can obtain information from literature and other sources, organize, interpret it and draw and formulate conclusions; has the ability to self-educate, interprets the results of completed engineering tasks, is able to design simple energy systems and their systems	The student understands the basic issues of modern physics	[SU2] Assessment of ability to analyse information

Subject contents

elements of cs band theory, theory of semiconductors and their application, elements of nuclear physics

Prerequisites and co-requisites

Fundamentals of physics: mechanics and heat, electricity and magnetism, hydromechanics

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Lecture	50.0%	100.0%

Recommended reading

Basic literature	David Halliday, Robert Resnick,Jearl Walker *Fundamentals of Physics, Wiley, any edition*
Supplementary literature	J. Massalski, M. Massalska, Fizyka dla Inżynierów, tom 1 i 2, Warszawa 2013

	eResources addresses	Adresy na platformie eNauczanie: PG_00055900 Energetyka FIZYKA - Moodle ID: 40646 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=40646
Example issues/ example questions/ tasks being completed	1. Give the properties of semiconductors, metals and dielectrics 2. What features does laser light have? 3. What is the difference between e-m waves and mechanical waves? 4. Principle of operation of a nuclear power plant	
Work placement	Not applicable	

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