



Subject card

Subject name and code	Quantum mechanics, PG_00064044						
Field of study	Technical Physics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study 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		5.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Theoretical Physics and Quantum Computing -> Faculty of Applied Physics and Mathematics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Marek Czachor				
	Teachers		prof. dr hab. Marek Czachor				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	30.0	0.0	0.0	90
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=14412						
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	90		5.0		30.0	125
Subject objectives	Introduction to basic structures of quantum mechanics						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W02] has systematized knowledge of the basics of physics, including mechanics, thermodynamics, electricity and magnetism, optics, atomic and particle physics, solid-state physics, nuclear and elementary particle physics		Quantum mechanics is a common element of many fields of science and facilitates a structured approach to them.		[SW1] Assessment of factual knowledge		
	[K6_U02] analyzes and solves simple scientific and technical problems, based on possessed knowledge, using analytical, numerical, simulation and experimental methods		Student: Derives the basic properties of the Schrödinger equation Solves the Schrödinger equation for a harmonic oscillator and 1/r potential using the method of creation and annihilation operators Derives the basic properties of the orbital angular momentum operator and related eigenproblems Derives the properties of the tensor product using the example of n q-bits		[SU1] Assessment of task fulfillment		

Practical activities within the subject	Not applicable
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