

Subject card

Subject name and code	Master Diploma Lab, PG_00154274						
Field of study	Physics						
Date of commencement of studies	October 2024		Academic year of realisation of subject			2025/2026	
Education level	Master's studies		Subject group			Obligatory subject group in the field of study Optional subject group	
Mode of study	full-time studies		Mode of delivery			at the university	
Year of study	2		Language of instruction			Polish not applicable	
Semester of study	3		ECTS credits			5.0	
Learning profile	academic		Assessment form			credit	
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Michał Studziński				
	Teachers		dr Agata Lazarowska dr hab. Sebastian Mahlik prof. dr hab. Michał Horodecki dr hab. Waldemar Kłobus				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	75.0	0.0	0.0	75
	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	75		0.0		50.0	125
Subject objectives	not applicable						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FIZMU2_W01] has an extended knowledge of general physics and an advanced knowledge of a selected area of physics; knows the history of the development of physics and its importance for the progress of science and natural sciences, world cognition and social development	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W04] knows the principle of operation of measuring systems and research apparatus specific to the area of physics related to the chosen specialization or knows advanced methods of theoretical and mathematical physics	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W06] has knowledge of current developments in physics, especially within his chosen specialty	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W07] knows the principles of occupational health and safety to a degree that allows independent work in the area corresponding to the chosen specialization	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W08] has a basic knowledge of the legal and ethical considerations involved in scientific and teaching activities	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W09] knows and understands the basic concepts and principles of industrial property protection and copyright law and the need to manage intellectual property resources; knows the principles of using patent information resources	not applicable	[SW5] implementation of a problem task
	[FIZMU2_W10] knows the general principles of creation and development of forms of individual entrepreneurship, using knowledge of physics and other sciences and natural sciences	not applicable	[SW5] implementation of a problem task
	[FIZMU2_U01] is able to apply the scientific method in solving physical problems, performing experiments and making inferences	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U02] has the ability to plan and perform basic and advanced experiments or observations in specific areas of physics or its applications	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U03] is able to make a critical analysis of the results of measurements, observations or theoretical calculations, together with an assessment of the accuracy of the results	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U04] is able to find the necessary information in the literature, both in databases and other sources; is able to reproduce the reasoning or course of an experiment described in the literature, taking into account the assumptions and approximations made	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U05] has the ability to synthesize methods and ideas from different areas of physics and other sciences; is able to see that even distant phenomena are described by similar models	not applicable	[SU5] implementation of a problem task

	Course outcome	Subject outcome	Method of verification
	[FIZMU2_U08] is able to communicate effectively with both specialists and non-specialists in the field of problems specific to the area of physics studied	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U09] can work independently and in a team	not applicable	[SU5] implementation of a problem task
	[FIZMU2_U11] is able to determine the directions of further improvement of knowledge and skills (including self-education) in the chosen specialty and beyond it	not applicable	[SU5] implementation of a problem task
	[FIZMU2_K01] knows the limits of his own knowledge and skills; can formulate questions precisely; understands the need for further education of himself and others	not applicable	[SK5] implementation of a problem task
	[FIZMU2_K02] is aware of the conclusive role of experiment in the verification of physical theories; is aware of the scientific method in the accumulation of knowledge	not applicable	[SK5] implementation of a problem task
	[FIZMU2_K03] is able to work individually and in a team; is aware of the responsibility for jointly implemented tasks	not applicable	[SK5] implementation of a problem task
	[FIZMU2_U12] is able to use English in the field of physics, mathematics and computer science, in accordance with the requirements specified for level B2+ of the Common European Framework of Reference for Languages, to a degree that allows him/her to independently supplement his/her education and communicate with specialists in the same or related specialization	not applicable	[SU5] implementation of a problem task
	[FIZMU2_K07] is aware of the responsibility for jointly (team) carrying out research tasks	not applicable	[SK5] implementation of a problem task
	[FIZMU2_K06] is aware of the risks in obtaining information from unverified sources, including the Internet	not applicable	[SK5] implementation of a problem task
	[FIZMU2_K04] understands and appreciates the importance of intellectual honesty in one's own and others' actions; is aware of ethical issues in the context of research integrity	not applicable	[SK5] implementation of a problem task
	[FIZMU2_W03] knows advanced experimental, observational and numerical techniques to plan and execute a complex physical experiment or computer simulation	not applicable	[SW5] implementation of a problem task
Subject contents	not applicable		
Prerequisites and co-requisites	not applicable		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	not applicable	51.0%	60.0%
	not applicable	51.0%	40.0%
Recommended reading	Basic literature	not applicable	
	Supplementary literature	not applicable	
	eResources addresses		
Example issues/ example questions/ tasks being completed	not applicable		
Work placement	Not applicable		

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