



Subject card

Subject name and code	Team research project II, PG_00067420						
Field of study	Technical Physics, Materials Engineering, Mathematics, Biomedical Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	second-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	2		Language of instruction		Polish none		
Semester of study	3		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marek Chmielewski				
	Teachers		dr inż. Marek Chmielewski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	40.0	0.0	40
	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	40		2.0		33.0	75
Subject objectives	The aim of the research project is to conduct a process in which students verify a research hypothesis set by an external client or university employee. The project may require the creation of a product, e.g. an application or device, and the conduct of appropriate research, analysis of results, etc. A mandatory outcome of a research project with a research hypothesis is a report in the form of a publication formatted in accordance with the IEEE template (or another global publisher), prepared in English. An additional element related to the implementation of research project topics may be the creation of a technology company.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W101] is able to make an in-depth identification of key objects and phenomena related to the field of study, as well as theories that describe them and applicable analytical and design methods	The student applies advanced research techniques to verify the research thesis. They are able to apply the knowledge acquired in their course of study in an appropriate way, taking into account practical, experimental and theoretical aspects. They are able to complete the appropriate set of scientific tools to achieve the final result.	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
	[K7_U101] is able to formulate complex research problems and adopts appropriate methods, obtaining innovative solutions, cooperating with other people, both as a leader and a team member	To executing tasks related to research topics, student indicates the correct methodology for conducting an experiment, implements and understands the need for a multi-faceted analysis of the results obtained. Correctly performs verification procedures and effectively uses them to determine the parameters of unknown elements under investigation. Is able to use group activities to solve research problems and coordinate the activities of a research team.	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	[K7_K101] acknowledges the importance of knowledge related to the field of study in solving cognitive and practical problems, critically assessing the information obtained	The student is able to effectively use the knowledge acquired during the educational process at the university. Thanks to the acquired skills, he/she solves research problems. He/she is able to plan an experiment to verify the validity of a thesis. He/she has the skills to critically analyse the results of measurements or observations in terms of their practical application. He/she is able to identify the economic benefits of using the results achieved.	[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice
Subject contents	Carrying out research tasks aimed at verifying the thesis put forward by the project commissioner. Preparing reports on the progress of research work. Organising and coordinating team activities. Preparing and presenting the final results of the research work in a form agreed with the project supervisor.		
Prerequisites and co-requisites	Depending on the requirements of the project supervisor.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Report in the form of a scientific article	100.0%	100.0%
Recommended reading	Basic literature	Determined by the supervisor of the topic	
	Supplementary literature	Determined by the supervisor of the topic	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Modelling of X-ray propagation using directional Gaussian beams Proton-conducting ceramics with an ordered microstructure Advanced magnetoacoustic emission signal analysis system		
Work placement	Not applicable		

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