



Subject card

Subject name and code	Team research project I, E:42009P0						
Field of study	Nanostructures and computer simulations in material science						
Date of commencement of studies	October 2024	Academic year of realisation of subject					
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery					at the university
Year of study	1	Language of instruction					English
Semester of study	2	ECTS credits					3.0
Learning profile	general academic profile	Assessment form					assessment
Conducting unit	Department of Computer Communications -> Faculty of Electronics Telecommunications and Informatics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Krzysztof Nowicki					
	Teachers	dr hab. inż. Anna Lis dr inż. Krzysztof Nowicki					
Lesson types	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	0.0		0.0		40
Subject objectives	The aim of the course is to conduct a process in which students will verify a client's research hypothesis, optimize a process, or conduct work related to developing a product and business model enabling the establishment of a technology company. Students deepen their theoretical and practical knowledge, learn to apply appropriate analytical and design methods, and develop collaborative research team skills. The course aims to prepare students to work independently and collaboratively to solve scientific and practical challenges, while simultaneously developing skills in developing and presenting research results.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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 can effectively utilize the knowledge acquired during their university education. Using these acquired skills, they can solve a research problem. They can design an experiment to verify the validity of a thesis.	[SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK1] Assessment of group work skills
	[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	When carrying out tasks related to research topics, the student demonstrates the correct methodology for conducting experiments. He or she realizes and understands the need for multi-pronged analysis of obtained results. He or she correctly conducts verification procedures and effectively utilizes them to determine the parameters of unknown elements being studied. He or she actively collaborates within the research team, acting as a leader or team member, communicating effectively, and completing tasks efficiently and on time.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information
	[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 utilizes advanced research techniques to verify a research thesis. The student is able to apply knowledge acquired in the field of study appropriately, taking into account practical, experimental, and theoretical aspects. The student is able to assemble the appropriate set of scientific tools to achieve the final result. The student demonstrates the ability to apply acquired knowledge in practice, proposing solutions tailored to the specific needs of the subject.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
Subject contents	<p>Course content – project Course Content - Project</p> <p>According to the project requirements specified by the project supervisor.</p> <p>The course begins with an introduction to the research project, which discusses the goals, assumptions, and structure of the research team, including the division of roles and responsibilities. Students become familiar with the principles of research methodology and the selection of appropriate research methods and tools tailored to the specific project. This is followed by an analysis of the research problem, including the identification and precise formulation of the issue, analysis of literature and secondary sources, and examination of the theoretical and practical context.</p> <p>The next stage involves planning and organizing the team's work, including developing a schedule of activities and allocating tasks within the team using project management tools. Research activities include fieldwork, laboratory experiments, or computer simulations, as well as data collection, processing, and analysis, including testing of research hypotheses. During the project, students participate in specialized workshops with experts, the aim of which is to expand knowledge and refine the solutions developed. At the end of the first semester of the project, students prepare a report in a form agreed with the project supervisor and a poster summarizing the completed stages of the project.</p>		
Prerequisites and co-requisites	<p>Students are expected to possess knowledge of basic research and analytical methods used within their field of study, teamwork skills, and effective interpersonal communication. Critical analysis of literature and data, as well as knowledge of the principles of writing scientific reports and presenting results, are also important.</p> <p>Furthermore, students are expected to demonstrate openness to interdisciplinary collaboration and consultation with experts, be willing to participate in specialized seminars and workshops, and take initiative and independently solve research problems.</p>		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project schedule	70.0%	30.0%
	Written report	70.0%	30.0%
	Attendance at workshops	70.0%	10.0%
	Poster (PL + EN)	70.0%	30.0%
Recommended reading	Basic literature	According to the project supervisor's recommendations. Wysocki R. Effective project management. Onepress, 2018.	
	Supplementary literature	According to the recommendations of the project supervisor	
	eResources addresses		
Example issues/ example questions/ tasks being completed	According to requirements and design assumptions.		
Practical activities within the subject	Not applicable		

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