



## Subject card

Subject name and code	Team research project I, PG_00071906						
Field of study	Informatics, Automatic Control, Cybernetics and Robotics						
Date of commencement of studies	February 2026	Academic year of realisation of subject				2025/2026	
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				Polish	
Semester of study	1	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 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		2.0		33.0	75
Subject objectives	The aim of this 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 will deepen their theoretical and practical knowledge, learn to apply appropriate analytical and design methods, and develop collaborative skills within a research team. 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_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 identifies in-depth the tasks and methods necessary to complete a research project; demonstrates knowledge of selecting the appropriate set of scientific tools to achieve the final result.	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
	[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 effectively uses the knowledge acquired during his/her studies to carry out a research or research and development project and critically analyses the information needed to complete the task.	[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice
[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 identifies the correct methodology for conducting an experiment; proposes solutions tailored to the specific nature of the research topic; correctly performs verification procedures and effectively uses them to determine the parameters of unknown test elements; demonstrates the ability to collaborate effectively in a team, acting as a leader or team member, and develops innovative solutions, presenting them in a form consistent with scientific and/or practical requirements.	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task	
Subject contents	<p>Course content – project <b>According to the project requirements specified by the project supervisor.</b></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 problem, 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, aimed at expanding their knowledge and refining their solutions. At the end of the first semester, students prepare a report in a format agreed upon with the project supervisor and a poster summarizing the completed project stages.</p>		
Prerequisites and co-requisites	<p>Students are expected to possess knowledge of basic research and analytical methods used within their field of study, demonstrate teamwork skills, and demonstrate 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
	Attendance at seminars	70.0%	10.0%
	Poster (PL + EN)	70.0%	30.0%
	Project schedule	70.0%	30.0%
Written report	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 project supervisor's recommendations.	
	eResources addresses		

<p>Example issues/ example questions/ tasks being completed</p>	<ul style="list-style-type: none"> <li>• Detecting nail plate diseases using artificial intelligence methods</li> <li>• Determining the probability of patients belonging to a risk group for cerebral aneurysm using machine learning methods</li> <li>• Minimizing radio link latency in private 5G networks for Industry 4.0 solutions</li> <li>• Research on machine learning algorithms for speech recognition in medical personnel</li> <li>• Studying parameters and optimizing phase interpolators with different architectures in low-scalable CMOS technology</li> <li>• Cleaning robot - cleaning the world with the support of a mobile artificial intelligence platform</li> <li>• Detecting mental disorders based on speech</li> <li>• IoT devices using blockchain technology</li> </ul>
<p>Practical activities within the subject</p>	<p>Not applicable</p>

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