GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Team research project II, PG_00064105		
Field of study	Automatic Control, Cybernetics and Robotics		
Date of commencement of studies	February 2025	Academic year of realisation of subject	2025/2026
Education level	second-cycle studies	Subject group	Optional subject group 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	1	Language of instruction	Polish To receive a grade: - satisfactory - the following must be completed: schedule, poster, and report; - higher than satisfactory - you must also prepare and deliver a presentation; - higher than good - you must also attend more than 50% of the classes; - very good - you must also submit a scientific article for publication
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	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

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=44803

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 continue (after semester 1) the 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_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. They are able to apply knowledge acquired in their field of study appropriately, taking into account practical, experimental, and theoretical aspects. They are able to assemble the appropriate set of scientific tools to achieve the final result. They demonstrate the ability to apply acquired knowledge in practice, proposing solutions tailored to the specific nature of the researched issue.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
[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 academic education. Using these acquired skills, they solve a research problem. They can plan an experiment to verify the validity of a thesis. They actively collaborate within a research team, acting as a leader or team member, communicating effectively and completing tasks, leading to the development of innovative solutions and the presentation of results in a scientifically acceptable form.	[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. They realize and understand the need for multi-pronged analysis of obtained results. They correctly conduct verification procedures and effectively utilize them to determine the parameters of unknown test elements. They demonstrate the ability to collaborate effectively within a team, acting as a leader or team member, and develop innovative solutions, presenting them in a form consistent with scientific and/or practical requirements.	[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools

Subject contents

Course content – project
According to the project requirements specified by the project supervisor.

The course continues the tasks aimed at solving the research, process, or technological problem defined in the previous semester as part of the "Team Research Project I" course.
At the conclusion of the project, students prepare a final report in one of three formats: a scientific article (according to the template provided by the selected scientific publisher), a patent application, or a technological solution report with business assumptions for market entry. An important additional element is the possibility of actual publication of the results in a scientific journal or presentation at a conference.

Prerequisites and co-requisites

Students are expected to complete the work defined in the "Team Research Project I" schedule.

They must demonstrate 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 familiarity with the principles of writing scientific reports and presenting results, are also important.
Furthermore, students should 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.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Written report</td><td>70.0%</td><td>20.0%</td></tr>
<tr><td>Poster (PL+EN)</td><td>70.0%</td><td>20.0%</td></tr>
<tr><td>Project presentation</td><td>70.0%</td><td>20.0%</td></tr>
<tr><td>Submitting a scientific article</td><td>0.0%</td><td>10.0%</td></tr>
<tr><td>Project schedule</td><td>70.0%</td><td>10.0%</td></tr>
<tr><td>Attendance at seminars</td><td>50.0%</td><td>20.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>According to the project supervisor's recommendations.

Wysocki R. Effective project management. Onepress, 2018.</td></tr>
<tr><td>Supplementary literature</td><td>according to the recommendations of the project supervisor.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">According to the project requirements and assumptions.

The mandatory outcome of a research project for projects with a research hypothesis is a report in the form of a publication formatted according to the IEEE (or other international publication) template, prepared in English. For application projects commissioned by companies, the requirement for passing the project is a report in English in the form of a patent application. For projects implemented in the Technology Company track, documentation in the form of a technological solution report, along with business assumptions for market entry, is required.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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