GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Designing mobile robots, PG_00061796		
Field of study	Automation, Robotics and Control Systems		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	7	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Katedra Elektrotechniki -> Faculty of Electrical and Control Engineering -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Paweł Kowalski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	0.0	20.0	0.0	30

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	30	5.0	40.0	75

Subject objectives

Introduction to the process of designing mobile robots.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W10] has basic knowledge related to mechatronics and robotics systems	Designs and builds a mobile robot.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation
[K6_U01] can obtain information from literature, databases and other sources; integrate the information obtained, interpret it and draw conclusions, formulate and justify opinions	Gathers information from literature, databases, and other sources, and uses it during the design and construction of a mobile robot.	[SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_U03] can prepare and present a presentation on the problems and results of an engineering task	Prepares and presents a presentation on the problems and results of an engineering task.	[SU5] Assessment of ability to present the results of task
[K6_W06] knows the structure of computers and microprocessors and the tasks of operating systems, has basic knowledge of the basics of computer software, drivers, microprocessor technology, design of simple algorithms and the operation of information networks	Programs microcontrollers that control mobile robots.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation

Subject contents

- Introduction to FreeCAD.
- Creating a 3D model.
- Preparing the model for 3D printing.
- Basics of 3D printing.

Prerequisites and co-requisites

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	60.0%
	Lecture assignment	50.0%	40.0%
Recommended reading	Basic literature	freeCAD documentation, https://wiki.freecad.org/Main_Page	
	Supplementary literature	Ultimaker 3D Printing Academy, https://support.makerbot.com/s/topic/0TO5b000000Q4usGAC/ultimaker-3d-printing-academy	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Development of a mobile robot in 3D printing technology.		
Work placement	Not applicable		

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