GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electromobility II, PG_00058675		
Field of study	Hydrogen Technologies and Electromobility		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Electrified Transportation -> Faculty of Electrical and Control Engineering -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Leszek Jarzębowicz	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	15.0	15.0	0.0	45

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	45	6.0	24.0	75

Subject objectives

Gaining knowledge about issues related to electromobility.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] can work in a group taking on different roles in it	The student is able to cooperate with other members of the laboratory group.	[SK2] Assessment of progress of work

Subject contents

Vehicle electric drive systems. Active safety systems. Energy consumption of electric vehicles. Vehicle energy storages. Electric and hybrid-electric cars. Autonomously driven vehicles. Vehicle charging systems and standards. Vehicle and infrastructure IT networks.

Prerequisites and co-requisites

Basic knowledge of physics, electrical machines, power electronics, electric drives, electrical engineering in transportation. Ability to solve simple electrical circuits.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test on the lecture part	60.0%	70.0%
Raports and preparation for laboratory	60.0%	30.0%

Recommended reading

Basic literature

Ehsani M., Gao Y., Longo S., Ebrahimi K.: Modern Electric, Hybrid Electric, and Fuel Cell Vehicles. 3rd Edition. CRC Press, 2018

Hayes J.G., Goodarzi G.A.: Electric Powertrain. Energy Systems, Power Electronics and Drives for Hybrid, Electric and Fuel Cell Vehicles. Wiley 2018.

Pistoia G., Liaw B.: Behaviour of Lithium-Ion Batteries in Electric Vehicles: Battery Health, Performance, Safety, and Cost. Springer 2018.

Găiceanu M. (red.): Self-Driving Vehicles and Enabling Technologies. IntechOpen 2021

	Supplementary literature	Karwowski K. (red.): Energetyka transportu zelektryfikowanego. Zbiór zadań problemowych. Wyd. PG, 2023.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Discuss the types and construction of hybrid combustion-electric cars. List the electric car charging standards used around the world and present their basic features.	
Work placement	Not applicable	

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