



Subject card

Subject name and code	Electrotechnics and Electronics in Transport, PG_00060645						
Field of study	Transport and Logistics						
Date of commencement of studies	October 2026	Academic year of realisation of subject				2027/2028	
Education level	first-cycle studies	Subject group				Obligatory subject group in the field of study	
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	2	Language of instruction				Polish	
Semester of study	3	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Division of Marine Auxiliary Machinery -> Institute of Naval Architecture -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Leśniewski					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	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		4.0		26.0	75
Subject objectives	Familiarize students with the basics of electrical engineering and electronics						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K01] is aware of the need for continuous improvement in the field of the profession and knows the possibilities of further education		The student is able to notice shortcomings knowledge in a specific field i can complete them		[SK5] Assessment of ability to solve problems that arise in practice		
	[K6_W03] has well structured knowledge of hydromechanics, thermodynamics, machine construction, ecology, material science and electrical engineering necessary to understand the principles of construction and operation of means of water transport		Has knowledge in the field of electrical engineering and electronics and is able to use it as part of analytical and design tasks related to ocean technical issues		[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects		
Subject contents	<p>Course content – lecture</p> <ul style="list-style-type: none"> • Electric current, sources of electricity, basics of electrical circuits. • Magnetic field and electromagnetism. • Sources of electricity 1. • AC circuits, power in AC systems. • Sources of electricity 2 • Control systems in electrical engineering and electronics. • Ship energy systems and electrical installations. • Electronic Components I • Electric drives of ships and floating objects. • Electronic components II • Measurements of non-electrical quantities and long-distance signal transmission. • Classification regulations in shipbuilding: • Electrical installations and control systems. • Basics of radio technology 						
Prerequisites and co-requisites	The knowledge of mathematics and physics of university level						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		50.0%	50.0%
		50.0%	50.0%
Recommended reading	Basic literature		
	Supplementary literature		
	eResources addresses		
Example issues/ example questions/ tasks being completed	<p>Description and solution electrical circuits. in the time domain and symbolic method.</p> <p>Impedance replacement of electrical circuits. Resonances in the electrical circuits</p> <p>Magnetic circuits - solving systems.</p>		
Practical activities within the subject	Not applicable		

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