GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Marine Electrotechnics, PG_00060568		
Field of study	Naval Architecture and Offshore Structures		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	first-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	3	Language of instruction	Polish
Semester of study	6	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	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	30.0	15.0	0.0	0.0	75

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	75	8.0	67.0	150

Subject objectives

Familiarize students with the basics of electrical engineering and electronics

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W04] has knowledge in the field of computer science, electronics, electrical engineering, automation and control, information technology, computer graphics, useful for understanding the possibilities of their use in ocean engineering	Knows the basics of electrical engineering and electronics in accordance with the requirements of engineering work in the shipbuilding industry.	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
[K6_U06] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete a simple engineering task within the range of design, construction and operation of ocean technology objects and systems	Student perform basic calculations of physical parameters in electric and magnetic circuits.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_K01] is aware of the need of constant improvement within the range of the possessed job 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

<table>
<tr><td>Subject contents</td><td>Course content – lecture
• 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</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>The knowledge of mathematics and physics of university level</td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td></td><td>50.0%</td><td>30.0%</td></tr>
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<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td></td></tr>
<tr><td>Supplementary literature</td><td></td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Description and solution electrical circuits. in the time domain and symbolic method.

Impedance replacement of electrical circuits. Resonances in the electrical circuits

Magnetic circuits - solving systems.</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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