GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electronics and electrical engineering, PG_00055286		
Field of study	Transport and Logistics		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Faculty of Ocean Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Leśniewski	
	Teachers	dr inż. Wojciech Leśniewski dr inż. Magdalena Kunicka	

Lesson types and methods of instruction

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	5.0	50.0	100

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 of constant improvement within the range of the possessed job and knows the possibilities of further education	The student is able to solve simple problems in the field of electrical engineering and electronics.	[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice
[K6_W03] has a basic knowledge on hydromechanics, thermodynamics, machine construction, ecology, materials science and electronics necessary to understand the construction and operation principles of means of marine transport	The student knows the development trends in the field of modern electrical systems used in shipbuilding.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge

Subject contents

Basic physical quantities in electrical engineering.
Elements of RLC circuits
Analysis of electrical circuits (Ident. Circuits)
Solving circuits in the time domain
Symbolic method of solving electrical circuits. (complex numbers)
Analysis of electric circuits. solving graphical method
Analysis of electric circuits. solving analytical method
Impedance replacement
Magnetism. The magnetic circuit
Solving magnetic circuits
Circuits associated 3f ~,
The system ee
Processing e.e to other types of energy

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
test	50.0%	100.0%

Recommended reading	Basic literature	*Podstawy elektrotechniki* i elektroniki. St.*Bolkowski* *Teoria obwodów elektrycznych. St.Bolkowski* *Elektrotechnika i elektronika okrętowa - nowe wyd. R. BIAŁEK*
	Supplementary literature	*Podstawy elektrotechniki* i elektroniki. R. Kurdziel *Elektrotechnika okrętowa. Czytanie schematów J. WYSZKOWSKI* *Elektrotechnika okrętowa. Napędy elektryczne J. WYSZKOWSKI* *Elektrotechnika teoretyczna. Obwody prądu stałego T. PIOTROWSKI* *Eksploatacja i diagnostyka elektrycznych urządzeń okrętowych J. MAJEWSKI* *Bezpieczna praca elektryka i elektronika na statku H. ŁĄCZYŃSKI* *Elektryczne urządzenia okrętowe. Laboratorium R. BIAŁEK,W. WOLCZYŃSKI, T. NOWAK, P. RUPNIK* I
	eResources addresses	Adresy na platformie eNauczanie: Elektrotechnika i Elektronika OCE/TiL/PiBJ - Moodle ID: 29995 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=29995
Example issues/ example questions/ tasks being completed	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.	
Work placement	Not applicable	