



## Subject card

Subject name and code	Electronics and electrical engineering, PG_00041669						
Field of study	Transport and Logistics, Transport and Logistics						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022		
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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Marine Mechatronics -> Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Wojciech Leśniewski				
	Teachers		dr inż. Magdalena Kunicka dr inż. Wojciech Leśniewski				
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						
	Adresy na platformie eNauczanie: Elektrotechnika i elektronika w+ćw zima 2021/2022 OCE [PG_00041777] + TIL [PG_00041669] - Moodle ID: 17812 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17812">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17812</a>						
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	<i>Podstawy elektrotechniki i elektroniki. St.Bolkowski</i>  <i>Teoria obwodów elektrycznych. St.Bolkowski</i>  <i>Elektrotechnika i elektronika okrętowa - nowe wyd. R. BIAŁEK</i>	
	Supplementary literature	<i>Podstawy elektrotechniki i elektroniki. R. Kurdziel</i>  <i>Elektrotechnika okrętowa. Czytanie schematów J. WYSZKOWSKI</i>  <i>Elektrotechnika okrętowa. Napędy elektryczne J. WYSZKOWSKI</i>  <i>Elektrotechnika teoretyczna. Obwody prądu stałego T. PIOTROWSKI</i>  <i>Eksploatacja i diagnostyka elektrycznych urządzeń okrętowych J. MAJEWSKI</i>  <i>Bezpieczna praca elektryka i elektronika na statku H. ŁĄCZYŃSKI</i>  <i>Elektryczne urządzenia okrętowe. Laboratorium R. BIAŁEK, W. WOLCZYŃSKI, T. NOWAK, P. RUPNIK</i>  I	
	eResources addresses	Elektrotechnika i elektronika w+ćw zima 2021/2022 OCE [PG_00041777] + TIL [PG_00041669] - Moodle ID: 17812 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17812">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17812</a>	
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		