



Subject card

Subject name and code	Electrical Engineering, PG_00040184							
Field of study	Mechanical Engineering							
Date of commencement of studies	October 2022	Academic year of realisation of subject			2023/2024			
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			English			
Semester of study	4	ECTS credits			2.0			
Learning profile	general academic profile	Assessment form			assessment			
Conducting unit	Department of Power Electronics and Electrical Machines -> Faculty of Electrical and Control Engineering							
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Filip Kutt						
	Teachers	dr inż. Filip Kutt dr inż. Ireneusz Mosoń						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM	
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30	
	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	30	6.0		14.0	50		
Subject objectives	The objective of the course is to familiarize students with the basic laws of electrical engineering and the basics of electrical and electromechanical energy conversion							
Learning outcomes	Course outcome	Subject outcome			Method of verification			
	K6_U05	The student has the ability to read electrical diagrams. The student has the ability to interpret and correctly analyse the results of simulation and experimental research			[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information			
	K6_W10	The student knows and understands the basic concepts and laws of electrical and electromechanical energy conversion			[SW1] Assessment of factual knowledge			
Subject contents	Principles and laws of electrical engineering. Measurements of electrical and non-electrical quantities. Electric drives. Production and distribution of electricity in the power system. Basics of electronics and power electronics. Rules for safe work with electrical devices							
Prerequisites and co-requisites	Knowledge of basic laws of physics. Ability to use tools of analytical mathematics							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade			
	Written exam	50.0%			50.0%			
	Practical exercises	50.0%			50.0%			
Recommended reading	Basic literature	1. Hambley A. R. Electrical Engineering Principles And Application, Pearson 2014 2. Szumanowski A. Basics of Electrical Engineering, Electrotechnics, Electronics And Electric Machines Oficyna Wydawnicza Politechniki Warszawskiej						
	Supplementary literature	1. Dennis T. H. Practical Marine Electrical Knowledge, Witherby Seamanship International Ltd						
	eResources addresses	Adresy na platformie eNauczanie:						

Example issues/ example questions/ tasks being completed	Provide and explain the definition of electric current. Present and explain the definitions of the RMS value of electric current. How can the speed of an induction / asynchronous motor be controlled?
Work placement	Not applicable