GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electrical Engineering, PG_00040184		
Field of study	Mechanical Engineering		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
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		

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