GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Electrotechnics and Electronics I, PG_00039826		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	October 2021	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	2	Language of instruction	Polish
Semester of study	3	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Electrochemistry, Corrosion and Materials Engineering -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Krzysztof Żakowski	
	Teachers	dr hab. inż. Krzysztof Żakowski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	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	1.0	19.0	50

Subject objectives

The student masters the basics of electrical engineering in the scope enabling understanding of the principles of generation, transmission and distribution of electricity, operation of selected electrical machines, devices, systems, principles of operation of measuring instruments. The acquired knowledge will be useful in the further course of study, in future professional work and in everyday life when using modern electrical and electronic devices.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W05	The student knows the application of basic electronic components.	[SW1] Assessment of factual knowledge
K6_K01	Student is able to properly set priorities for the implementation of specific tasks.	[SK5] Assessment of ability to solve problems that arise in practice
K6_U06	Student is able to use modern electrical and electronic devices.	[SU4] Assessment of ability to use methods and tools

Subject contents

- DC and AC electrical circuits.
- Three-phase systems.
- Electric machines: generators, motors, transformers.
- Power system.
- Electrical installations.
- Electrical measurements.
- Basic electronic components and systems.

Prerequisites and co-requisites

General knowledge of electrical engineering. Fundamentals of physics.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	60.0%	100.0%

Recommended reading

Basic literature	not applicable
Supplementary literature	not applicable

	eResources addresses	Adresy na platformie eNauczanie: Elektrotechnika i elektronika IM 2022/23 wykłady - Moodle ID: 21610 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=21610
Example issues/ example questions/ tasks being completed	• Connecting three-phase receivers in a star and triangle. • Commutator machines. • Induction motors. • TN-S, TN-C-S network systems. • Analog and digital meters. • Diodes, transistors, thyristors.	
Work placement	Not applicable	