



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 Corrosion and Electrochemistry -> 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	<ul style="list-style-type: none">• 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 eNauczenie: 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	<ul style="list-style-type: none"> • 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	

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