



Subject card

Subject name and code	Electrical Installations, PG_00055886						
Field of study	Power Engineering, Power Engineering, Power 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 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				English	
Semester of study	3	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Zbigniew Lubośny				
	Teachers		dr inż. Seweryn Szultka prof. dr hab. inż. Zbigniew Lubośny				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	E-learning hours included: 0.0						
Instalacje elektryczne - Moodle ID: 26977 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26977							
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		8.0		37.0	75
Subject objectives	Get knowledge related to structure, requirements and design of low voltage installations.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_W08] has basic knowledge in the field of intellectual property protection and patent law, knows and understands the basic processes of energy production and use, knows and understands the principles of modern heating and power systems		The student knows the systems and systems of protection against electric shocks and the phenomena occurring during normal and emergency operation of electrical installations.			[SW2] Assessment of knowledge contained in presentation	
	[K6_K03] is able to react in emergency situations, threats to health and life when using energy devices, is aware of the impact of engineering activities on the environment		The student is able to select the elements of the electrical installation system.			[SK5] Assessment of ability to solve problems that arise in practice	
[K6_W03] knows the basics of automation and automatic regulation, knows the principles of the selection of electrical devices, drive systems and their control		The student is able to design electrical installations.			[SW1] Assessment of factual knowledge		
Subject contents	Electrical LV installations - definitions, structures, requirements. Load and short-circuit currents influence on low voltage grids. Electric cables, fuses, switchgears, overvoltage protection - construction and characteristics. Electric installations design.						
Prerequisites and co-requisites	Electric power systems						
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade	
	Colloquium		60.0%			100.0%	

Recommended reading	Basic literature	<p>Bill Atkinson, Electrical Installations Designs. John Wiley & Sons, 2013</p> <p>Electrical installation guide. According to IEC International Standards. Schneider Electric, 2018</p> <p>Electrical installations handbook. Protection, control and electrical devices. ABB SACE 2010</p>
	Supplementary literature	<p>Ismail Kasikci, Short Circuits in Power Systems. A practical Guide to IEC 60909. Wiley-VCH. 2002.</p> <p>IEC 60364) Low-voltage electrical installations.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	Design part of low voltage grid including cables and protective devices, eg. fuses or switches.	
Work placement	Not applicable	