



Subject card

Subject name and code	Electric Equipment and Wiring Systems, PG_00042182						
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2022/2023		
Education level	first-cycle studies		Subject group		Optional subject group 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	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		2.0		
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		prof. dr hab. inż. Zbigniew Lubośny				
			dr inż. Seweryn Szultka				
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						
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		3.0		17.0	50
Subject objectives	Acquainting with the construction and principles of selection of elements of electrical installations.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_U05		The student is able to select the elements of the electrical installation.		[SU3] Assessment of ability to use knowledge gained from the subject		
	K6_W05		The student knows circuits and systems protection against electric shocks and phenomena occurring during normal and emergency operation electrical installations.		[SW3] Assessment of knowledge contained in written work and projects		
	K6_W08		The student is able to design an electrical installation.		[SW3] Assessment of knowledge contained in written work and projects		
Subject contents	Electrical installations - definitions, structure, requirements. Impact of working and short-circuit currents on installation components. Power cables, fuses, circuit breakers, differential circuit breakers - design and characteristics. Principles of installation design.						
Prerequisites and co-requisites	Basics of electrical engineering						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		60.0%		100.0%		

Recommended reading	Basic literature	<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> <p>Markowski H.: Urządzenia i instalacje elektroenergetyczne. WNT Warszawa 2006.</p> <p>Musiak E.: Urządzenia elektroenergetyczne. PWSiP, Warszawa 2003.</p> <p>Poradnik Inżyniera elektryka. WNT Warszawa 2011.</p> <p>N SEP-E-002 Instalacje elektryczne w obiektach budowlanych.</p> <p>Instalacje elektryczne w obiektach mieszkalnych. Warszawa 2006.</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. PN-IEC 60364 Instalacje elektryczne w obiektach budowlanych.</p> <p>Bill Atkinson, Electrical Installations Designs. John Wiley & Sons, 2013</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Design a part of the installation in terms of cable selection and protection (fuse, circuit breaker installation).	
Work placement	Not applicable	