



## Subject card

Subject name and code	, PG_00062079						
Field of study	Civil Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group					
Mode of study	Part-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 Electrical Engineering of Transport -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jacek Skibicki					
	Teachers	dr inż. Izabela Prażuch dr hab. inż. Jacek Skibicki					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	5.0	0.0	0.0	0.0	15
	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	15	0.0		0.0		15
Subject objectives	The main purpose of the subject is to become familiar with the principles of using electrical installations and the basics of their design. Information on the construction of electrical installations, their types, protections, electric shock protection, etc. will be provided. In addition, students will learn the methods of energy transmission in the power system and how to produce it.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U04] Reads and prepares construction documentation (including drawings, graphic documentation in the CAD environment), efficiently uses maps as well as architectural, construction and geodetic drawings.	The student is able to design elements of the electrical installation system in a residential building based on the assumed power of electrical loads.			[SU1] Assessment of task fulfilment		
	[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student is able to recognize the elements of the electrical installation, assign devices to particular protection classes, and is able to determine the conditions for conducting the electrical installation in the room.			[SW1] Assessment of factual knowledge		
	[K6_U03] Design engineering objects and details, processes and engineering systems by applying appropriate standards and methods of design.	The student is able to select elements of the electrical installation in a residential building and the power supply installation.			[SU1] Assessment of task fulfilment		
Subject contents	The concept of electrical installation. Construction of domestic and industrial installations. Electricity receivers. Overcurrent protection. Electric shock protection. Electrical installation in industry. Electricity transmission, overhead and cable lines. Electricity generation, conventional, nuclear, hydro, wind, solar and micro power plants. Prosumment instalations.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Lecture final test	60.0%			60.0%		
	Colloquium on exercises	60.0%			40.0%		

Recommended reading	Basic literature	<p>Musiał. E.: Instalacje i urządzenia elektroenergetyczne. Warszawa. WSiP.</p> <p>Wiatr J., Orzechowski M.: Poradnik projektanta elektryka. Warszawa. Medium.</p> <p>Czapp S. Ochrona przeciwporażeniowa w sieciach i instalacjach niskiego napięcia. Warszawa PWN</p>
	Supplementary literature	<p>Niestępski S, Parol M., Pasternakiewicz J., Wiśniewski T.: Instalacje elektryczne, budowa, projektowanie i eksploatacja. Warszawa OWPW.</p> <p>Lichnowski J.: Urządzenia elektryczne na placu budowy. Warszawa. Arkady.</p>
	eResources addresses	<p>Adresy na platformie eNauczanie:  Instalacje Budowlane Elektryczne [Niestacjonarne][WILiŚ][2023/24] - Moodle ID: 33222  <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33222">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33222</a></p>
Example issues/ example questions/ tasks being completed	Selecting the cross section of electrical wiring. Selection of short-circuit protection.	
Work placement	Not applicable	