



Subject card

Subject name and code	Wind Power Plants, PG_00066158						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	second-cycle studies		Subject group				
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		1.0		
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						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	0.0	0.0	10
	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	10		6.0		9.0	25
Subject objectives	To acquaint the student with issues related to wind power, construction of wind farms, possibilities of use in control processes in electric power systems.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W05] has detailed knowledge of the regulatory processes in the electricity system electricity system, electricity safety and electricity safety automation		Knows the issues of controlling the power system and its objects, including the principles of controlling wind farms.		[SW1] Assessment of factual knowledge		
	[K7_U02] is able to prepare and deliver a short oral presentation on a selected technical topic		Students interprets and correctly selects factual data to present information related to wind power.		[SU5] Assessment of ability to present the results of task		
	[K7_W02] has an in-depth and structured knowledge of electrical measurements electrical measurements, the methods and equipment used for electrical measurements of non-electrical quantities, he/she knows the principles of testing operation tests of electrical equipment, has a structured knowledge of electricity quality issues		Student uses mathematical methods and algorithms to solve problems covered by the course.		[SW1] Assessment of factual knowledge		
	[K7_U03] is able to obtain information from literature, databases and other sources, also in English, draw conclusions, formulate and fully justify opinions. substantiate opinions; is able to identify directions for further learning and implement the process of self-education		Student has structured knowledge of the construction and operation of wind farms in the power system.		[SU2] Assessment of ability to analyse information		
Subject contents	Wind energy - development, resources. Calculation of energy resources at a given location for a given type of wind farm. Wind farm constructions. Wind farms operation. Connection methods to the power system. Wind farm and power plant control. Impact of wind farms on the power system.						
Prerequisites and co-requisites	Knowledge about power systems, their structure and control processes.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		60.0%		100.0%		

Recommended reading	Basic literature	<p>Lubośny Z.: Farmy wiatrowe w systemie elektroenergetycznym. WNT Warszawa 2009.</p> <p>A. Flaga: Inżynieria wiatrowa. Podstawy i zastosowania. Wydawnictwo Arkady 2008.</p> <p>T. Boczar: Wykorzystanie energii wiatru. Wydawnictwo PAK, Warszawa 2010.</p>
	Supplementary literature	<p>Lubośny Z.: Elektrownie wiatrowe w systemie elektroenergetycznym. WNT Warszawa 2006</p> <p>Poradnik inżyniera elektryka. WNT Warszawa 2011 (tom 3), 2007 (tom 2).</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Calculate the annual amount of electricity that a wind farm of a given type can generate for a given wind speed distribution at the location of the plant.	
Work placement	Not applicable	

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