



Subject card

Subject name and code	Wind Power Plants, PG_00044105						
Field of study	Electrical Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Full-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	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	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	4.0	8.0	27		
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_U02	Is able to prepare and present a short oral presentation on a selected technical topic.			[SU4] Assessment of ability to use methods and tools		
	K7_U03	Is able to obtain information from literature, databases and other sources, also in English, draw conclusions, formulate and fully justify opinions.			[SU2] Assessment of ability to analyse information		
	K7_W01	Is able to use mathematical methods to solve problems covered by the subject of classes.			[SW1] Assessment of factual knowledge		
	K7_W02	Has structured knowledge of electrical measurements, methods and equipment used for electrical measurements of non-electrical quantities, knows the principles of conducting operational tests of electrical devices, and has structured knowledge of electricity quality issues.			[SW1] Assessment of factual knowledge		
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	<p>Adresy na platformie eNauczenie: ELEKTROWNIE WIATROWE [2023/24] - Moodle ID: 32204 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32204</p>
Example issues/ example questions/ tasks being completed	<p>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.</p>	
Work placement	<p>Not applicable</p>	