



Subject card

Subject name and code	Accounting in Power Industry (WEiA), PG_00042096						
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		2023/2024		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		English		
Semester of study	7		ECTS credits		4.0		
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		dr inż. Marcin Jaskólski				
	Teachers		dr inż. Wiktoria Stahl				
			dr inż. Marcin Jaskólski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	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		5.0		65.0	100
Subject objectives	Acquisition of the ability to carry out technical and economic analysis of a project consisting of the construction and operation of a power plant.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_U01		The student is able to obtain information from publications in English and apply them to the technical and economic analysis of a simple energy system.		[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment		
	K6_W06		The student is able to perform technical and economic analyzes of simple energy systems.		[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge		
	K6_U05		The student is able to perform technical and economic analyzes of simple energy systems.		[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment		
Subject contents	<p>Lecture: Discount account. Averaging in the discount account. Depreciation and determination of depreciation write-offs. Bank loan in business. Static and dynamic methods for assessing the profitability of investments in the energy sector. Accounting rate of return. Simple payback period. Break-even point analysis. Net present value. Internal rate of return. Discounted payback period. The specific cost of energy. Annual costs in the energy sector. Calculation of energy production, fuel consumption and emissions.</p> <p>Laboratory: Calculation of energy production and fuel consumption and emissions. Calculations of costs and revenues from activity for an energy facility. Determination of investment profitability ratios in the energy sector.</p>						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Techno-economic analysis	60.0%	50.0%
	Evaluation test	60.0%	50.0%
Recommended reading	Basic literature	Jaskólski M., Modelling long-term technological transition of Polish power system using MARKAL: Emission trade impact, Energy policy 97 (2016), pp. 365-377 NEA, IEA, Projected costs of generating electricity 2015 edition	
	Supplementary literature	Jaskólski M., Reński A., Minkiewicz T., Thermodynamic and economic analysis of nuclear power unit operating in partial cogeneration mode to produce electricity and district heat, Energy 141 (2017), pp. 2470-2483	
	eResources addresses	Adresy na platformie eNauczanie: Accounting in Power Industry [23/24] Nowy - Moodle ID: 34871 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=34871	
Example issues/ example questions/ tasks being completed	1. Calculate the annual costs of generating electricity in a nuclear power plant. 2. Calculate the unit cost of generating electricity in a wind farm. 3. Calculate the capital costs for the investment consisting in the construction of a coal-fired power plant. 4. Calculate the net present value of the steam and gas power plant at the set values of technical and economic indicators.		
Work placement	Not applicable		