



## Subject card

Subject name and code	Displacement Compressors, PG_00039977						
Field of study	Mechanical Engineering, Mechanical 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	Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Zbigniew Kneba					
	Teachers	mgr inż. Stanisław Głuch dr hab. inż. Zbigniew Kneba					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	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		15.0		50
Subject objectives	Acquainting students with thermodynamic processes and energetic parameters of displacement compressors. Overview of construction details of reciprocating and rotary compressors. Demonstration of compressor testing methods. Presentation of formulas for calculating compressor valves.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U07] is able to design a typical construction of a mechanical device, component or a testing station using appropriate methods and tools, adhering to the set usage criteria	Understands the processes taking place in displacement compressors and knows their structures			[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W08] possesses basic knowledge including the methodology of designing machine parts, mechanical devices, selection of construction materials, manufacturing and operation, with the lifetime cycle	Selects a compressor for industrial applications. Selects accessories for compressors.			[SW1] Assessment of factual knowledge		
Subject contents	Application areas of displacement compressors. Thermodynamic cycles and energy indicators of compressors. Perfect and real compressor. Construction of various types of reciprocating and rotary compressors. Compressor parts and their design calculations. Cooling and lubrication circuits. Compressor acceptance tests.						
Prerequisites and co-requisites	Completed thermodynamics classes.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	written test, lab report	50.0%			100.0%		
Recommended reading	Basic literature	.					
	Supplementary literature	.					
	eResources addresses	Adresy na platformie eNauczenie:					
Example issues/ example questions/ tasks being completed	Draw an indicator diagram of the real compressor indicating the energy loss fields in relation to the ideal compressor.						

Work placement	Not applicable
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