



## Subject card

Subject name and code	Fundamentals of Displacement Compressors, PG_00050153						
Field of study	Mechanical Engineering						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Wiktoria Wojnicz					
	Teachers						
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	8.0		62.0	100	
Subject objectives	Presentation of the theoretical foundations, principles of operation and construction of displacement compressors. Analysis of selected problems of design and operating these machines						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U03] is able to identify, formulate and develop the documentation of a simple design or technological task, including the description of the results of this task in Polish or in a foreign language and to present the results using computer software or other aiding tools	Student applies the theory of thermal machines (thermodynamics, fluid mechanics) to describe the real processes and design displacement compressors			[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	The student solves basic design problems occurring in the compressor displacement.			[SW1] Assessment of factual knowledge		
	[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	Student analyses and estimates the designs the displacement compressors			[SU1] Assessment of task fulfilment		
Subject contents	The student knows the properties of air and equipment for the production and treatment of the compressed air. The student is able to select the elements of the compressor equipment. The student describes the structure and operation of positive displacement compressors and the method of controlling their capacity. Student calculates compressed air consumption by pneumatic drives. The student understands the operation of the pneumatic system and is able to design simple systems.						
Prerequisites and co-requisites	Fundamentals of general mechanics						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
		56.0%			100.0%		
Recommended reading	Basic literature	Cantek L., Więckiewicz H.: Sprężarki wyporowe. Materiały pomocnicze do wykładów, ćwiczeń i projektowania. Wyd. PG. Gdańsk 1985					

	Supplementary literature	AtlasCopco Technika sprężonego powietrza.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>Select the components and equipment of a compressor room.</p> <p>Describe the construction and operation of a compressor.</p>	
Work placement	Not applicable	