



Subject card

Subject name and code	Team project, PG_00057381						
Field of study	Mechanical Engineering						
Date of commencement of studies	February 2023		Academic year of realisation of subject		2023/2024		
Education level	second-cycle studies		Subject group		Optional 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		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Zakład Hydrauliki i Pneumatyki -> Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Grzegorz Ronowski				
	Teachers		dr hab. inż. Grzegorz Ronowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	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		10.0		60.0	100
Subject objectives	Mastering the ability to work in a group when carrying out an engineering project.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U04] is able to prepare and present a presentation of a solution of a construction or technological task and results of performed experiments including the analysis of the results and possible changes in Polish or in a foreign language, is able to organize and manage the work of a team, directing the tasks	The student is able to present his work to team members, other students and the lecturer.	[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task
	[K7_K04] is able to establish professional contacts and is able to lead and work in a team assuming various roles in the team; is able to show resourcefulness and innovation when realizing professional projects	The student is able to solve problems creatively.	[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills [SK2] Assessment of progress of work
	[K7_U08] is able to design a procedural equipment or device compliant with the specifications using a design aid system in the form of a design documentation, selecting the appropriate model, performing critical analysis with the proper selection of tools and technologies	The student is able to make a technical design of the device demonstrating the knowledge and skills acquired in previous years of study.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
	[K7_K01] is aware of the need for complementing the knowledge throughout the whole life, is able to select proper methods of teaching and learning	The student is able to draw conclusions from the teacher's comments, learn from them and make changes to the project.	[SK2] Assessment of progress of work
	[K7_U01] is able to acquire information from specialist literary sources and other sources regarding the construction and operation of machines and related disciplines in Polish and in a foreign language, is able to conduct a self-learning process, is able to synthesize the information, form conclusions and justify opinions	The student is able to effectively find the information necessary to complete the task	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject
Subject contents	<p>Students learn to use in practice the knowledge gained in their earlier years of study. By implementing group projects, they learn to cooperate with each other, organize work and solve complex engineering problems together. The classes are consultative in nature, in which the students solve the problem presented to them by the tutor, and the tutor checks the progress of work and helps students in the event that they cannot find a solution.</p> <p>Framework plan of the course:</p> <ol style="list-style-type: none"> 1. Division into groups, defining the rules for carrying out classes, assigning tasks, 2. Presentation of the progress of work carried out according to a predetermined schedule, 3. Presentation of the results of the work in front of the entire class 4. Presentation for evaluation of the technical 		
Prerequisites and co-requisites	<p>Items passed:</p> <ol style="list-style-type: none"> 1. Basics of machine design 2. Basics of hydraulics and pneumatics 		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Task	56.0%	70.0%
	Presentation	56.0%	30.0%

Recommended reading	Basic literature	<p>Skrypty wydane na PG: Wały i Osie, Połączenia wału z piastą, Elementy podatne, Łożyska ślizgowe i inne</p> <p>Hydrostatyczny napęd maszyn - Andrzej Osiecki</p> <p>Vademecum Hydrauliki - Bosch Rexroth</p> <p>Wzory, wykresy i tablice wytrzymałościowe - Niezgodziński</p>
	Supplementary literature	<p>Podstawy Konstrukcji Maszyn Wybrane zagadnienia; Marek Kochanowski skrypt PG 2002r.</p> <p>Podstawy konstrukcji maszyn pod redakcją Marka Dietricha, WNT 1999 (wiele wydań w różnych latach)</p> <p>Napęd hydrostatyczny - Stefan Stryczek</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>Design of pressure relief valve</p> <p>Design of hydraulic cylinder</p>	
Work placement	Not applicable	