



Subject card

Subject name and code	Fundamentals of Machine Design I, PG_00039484						
Field of study	Mechatronics, Mechatronics						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study 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	5	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Artur Olszewski					
	Teachers	mgr inż. Tomasz Żochowski mgr inż. Marek Łubniewski dr inż. Jacek Czyżewicz dr hab. inż. Artur Olszewski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	30.0	0.0	60
	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	60	6.0		34.0		100
Subject objectives	A student achieves basis of machine design, construction and maintenance.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_U05	.			[SU4] Assessment of ability to use methods and tools		
	K6_U06	.			[SU5] Assessment of ability to present the results of task		
	K6_W04	.			[SW1] Assessment of factual knowledge		
	K6_U07	.			[SU4] Assessment of ability to use methods and tools		
Subject contents	LECTURE Mechanical transmission and drive systems. Friction clutches and brakes. Sealings. Data bases. Basis of tribology: friction in machines - advantages and disadvantages. Holistic theory in phenomenas of tribological systems. Fluid lubrication. Sliding bearings. Basis of hydrostatic drive. Machine maintenance and reliability. Safety. Diagnostics. EXCERISES Mechanical transmissions and drive systems. Clutche and brakes. Sliding bearings. Optimalization. DESIGNING Designing of simple drive systems. Engineering calculations. Technical drawings. Optimalization.						
Prerequisites and co-requisites	Knowledge in field of Engineering drawing Knowledge in field of Mechanics Knowledge in field of Strength of materials Knowledge in field of Metrology						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Oral exam		50.0%		50.0%		
	Project		50.0%		25.0%		
	Practical exercise		50.0%		25.0%		
Recommended reading	Basic literature		Knowledge in field of Engineering drawing Knowledge in field of Mechanics Knowledge in field of Strength of materials Knowledge in field of Metrology				
	Supplementary literature		1. Fundamentals of machine design - lectures and problems - series of handbooks, edited by GUT 2. Kochanowski M.: Podstawy konstrukcji maszyn. Wybrane zagadnienia. Gdańsk: P. Gdańska 2002. 3. Pokojski J.: Systemy doradcze w projektowaniu maszyn. Warszawa: Wyd. N-T 2005.				

	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	