



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. Optimization. DESIGNING Designing of simple drive systems. Engineering calculations. Technical drawings. Optimization.						
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	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	