

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of Machine Design, PG_00060588								
Field of study	Design and Construction of Yachts								
Date of commencement of studies	October 2023		Academic year of realisation of subject			2024/2025			
Education level	first-cycle studies		Subject group			Obligatory subject group in the field of study			
						research in the field of study			
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	2		Language of instruction			English polish			
Semester of study	4		ECTS credits			4.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Institute of Naval Arch	ulty of Mechanical Engineering and Ship Technology							
Name and surname	Subject supervisor	prof. dr hab. inż. Wojciech Litwin							
of lecturer (lecturers)	Teachers		mgr inż. Agnieszka Barszczewska						
	prof. dr hab. inż. Wojciech Litwin								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	30.0	15.0	0.0	0.0		0.0	45	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity Participation in classes include plan		I didactic Participation in consultation hours		Self-study SUM				
	Number of study hours	45		5.0		50.0		100	
Subject objectives	Student should have principles knowledge in Machine Elements Design								
Learning outcomes	Course out	Subject outcome			Method of verification				
	[K6_W03] has knowledge of hydromechanics, thermodynamics, machine design, ecology, materials science necessary to understand the principles of construction and operation of ocean engineering facilities and equipment		The student has basic knowledge of machine design			[SW3] Assessment of knowledge contained in written work and projects			
	[K6_U05] able to formulate a simple engineering task and its specification in the field of yacht design, construction, and operation		The student has basic knowledge of machine design			[SU3] Assessment of ability to use knowledge gained from the subject			
Subject contents	1. Design, types and calculations of permanent fastening machine elements. 2. Design, types and calculations of screw joints. 3. Design, types and calculations of hub and shaft fastening. 4. Design of shafts and axles. 5. Springs. 6. Design, types and calculations of ball and roller bearings. 7. Sliding bearings. 8. Gears. 9. Angular, planetary and worm gears. 10. Chain gears. 11. Belt gears.								
Prerequisites and co-requisites	Principles knowledge of technical drawing and mechanics.								
Assessment methods	Subject passin	Subject passing criteria		Passing threshold			Percentage of the final grade		
	Itest		60.0%						
Recommended reading	Basic literature	1. Dietrich M.: Podstawy Konstrukcji Maszyn, tomy 1,2 i 3 2. Kochanowski M.: Wybrane zagadnienia z Podstaw Konstrukcji Maszyn, skrypt PG 2002r. 3. Dobrzański J.: Rysunek Techniczny Maszynowy 4. Spotts M. F., Design of Machine Elements, Prentice Hall							
	Supplementary literature		no						

	eResources addresses	Adresy na platformie eNauczanie:				
		Podstawy konstrukcji maszyn - Moodle ID: 44816 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=44816				
Example issues/ example questions/ tasks being completed	 Ball and roller bearings, drawing, types, calculations method. Sliding bearings, drawing, types, explain P, V, PV, calculations procedure, PV diagram. Gears types. Planetary gears, description and drawing. Worm gear, properties, description, schematic. 					
Work placement	Not applicable					

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