



Subject card

Subject name and code	Team Project, PG_00064145						
Field of study	Mechanical and Medical Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	first-cycle studies		Subject group		Optional subject group		
Mode of study	Full-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		assessment		
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Sebastian Grelik-Urbanowski				
	Teachers						
Lesson types	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		22.0		48.0	100
Subject objectives	Presentation of the design process and solve engineering problems						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U06] can identify and formulate specifications for simple practical engineering tasks, and critically analyze existing technical solutions, evaluating their functionality, particularly in the context of designing mechanical and medical-mechanical devices		The student applies engineering problem-solving methods and techniques appropriate to the given task.		[SU4] Assessment of ability to use methods and tools		
	[K6_U01] is able to acquire knowledge and self-studying, he/she is able to find needed information in specialist books, databases and other sources, he/she is able to integrate information and draw conclusions, he/she is able to communicate by using different technics in work and outside		The student selects sources of knowledge and synthesizes the acquired information		[SU2] Assessment of ability to analyse information		
	[K6_U02] is able to prepare design and technology documentations, present results of engineering tasks in both Polish and a foreign language		The student prepares documentation for a multidisciplinary project.		[SU5] Assessment of ability to present the results of task		
	[K6_U04] is able to utilize empirical, analytical, simulation, and computer-based methods to formulate and solve engineering tasks in the field of medical and mechanical engineering		The student applies engineering problem-solving methods and techniques appropriate to the given task.		[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		

Subject contents	Course content – project Defining the problem. Solving engineering tasks using current knowledge and expertise. The use of modern tools supporting engineering activities and cooperation. It is planned, to perform projects in cooperation with students from other degree courses, for example Mechatronics.Students will cooperate in teams to expand existing or develop new solutions (based on a given specifications and constraints) in scope of, for example, mechanical construction, automatic control of device functions, communication, sensors, actuators, safety elements etc		
Prerequisites and co-requisites	Students must have basic knowledge of: - human anatomy and physiology - rehabilitation engineering and physical rehabilitation - biomechanics - machine design		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	design task	60.0%	100.0%
Recommended reading	Basic literature	No requirements	
	Supplementary literature	Teamwork and Project Management. K. Smith. McGraw-Hill Education, 2013 Scrum Guide. K. Schwaber, J. Sutherland, 2020 Analysis and design of a flexible exoskeleton for the upper limbs. J. Escudero. Politechnika Madrycka, 2021 Development of an Ankle Exoskeleton: Design, Modeling, and Testing. G. Sergazin et. al. Sensors, 2025 Design exoskeletons. L. A. Zuñiga-Aviles, G. Mackenzie Cruz-Martinez. CRC Pres, 2023 Design of a powered full-body exoskeleton for physical assistance of elderly people. S. Christensen et. al. International Journal of Advanced Robotic Systems, 2021 He Y, Eguren D, Luu TP, Contreras-Vidal JL. Risk management and regulations for lower limb medical exoskeletons: a review. Med Devices (Auckl). 2017 Assuring the Safety of Medical Exoskeletons: An FDA Reviewer Perspective. I. Marcus, FDA Normy ISO Anatomia człowieka J. Moryś, O. Narkiewicz, PZWŁ	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Project of the device for close transport of patients with limited mobility		
	Project of the device for monitoring selected parameters of the sportsman during performing his exercises		
	Project of the exoskeleton of lower or upper limbs		
	Project of the device for for the acquisition of physiological signals from the human body		
Practical activites within the subject	Not applicable		

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