



Subject card

Subject name and code	Fundamentals of Machine Design III, PG_00050262						
Field of study	Medical and Mechanical Engineering, Medical and Mechanical Engineering						
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	6	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Rafał Gawarkiewicz				
	Teachers		dr inż. Rafał Gawarkiewicz mgr inż. Marek Łubniewski				
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						
Additional information: in the event of a pandemic - via Zoom							
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	9.0		61.0	100	
Subject objectives	Widening and strengthening the knowledge about designing basic elements and components used in machinery. Preparation of a preliminary project dealing with a simple mechanical device with driving system.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_U05		In the design process, the student uses analytical and computer methods to formulate and solve engineering tasks.		[SU3] Assessment of ability to use knowledge gained from the subject		
	K6_U07		In the design process, the student identifies and formulates simple engineering tasks of a practical nature and performs a critical analysis of existing solutions.		[SU1] Assessment of task fulfilment		
	K6_W09		The student uses computer programs to perform numerical analyzes simulating the expected loads on the elements of the designed device.		[SW3] Assessment of knowledge contained in written work and projects		
	K6_W07		The student increases his knowledge in the field of design, production and operation of parts of machines and devices. He/She prepares technical documentation.		[SW3] Assessment of knowledge contained in written work and projects		
	K6_U08		In the design process, the student uses routine methods and tools according to the simple engineering task being solved.		[SU4] Assessment of ability to use methods and tools		
Subject contents	Project: preliminary project of a simple mechanical device with mechanical driving system. Formulating the need, creating concepts, defining requirements, creating assessment criteria, selecting the best concept. Selection of standardised elements of driving system. Performing engineering documentation.						
Prerequisites and co-requisites	Mathematics, Physics, Engineering graphics, Mechanics, Strength of materials, Materials science, Metrology, Machine design I and II and basic skills of using CAD programs (such as Inventor, AutoCAD, SolidWorks, etc.).						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Performing of the project	60.0%	100.0%
Recommended reading	Basic literature	No recommendations.	
	Supplementary literature	No recommendations.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		