GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00056089						
Field of study	Mechanical and Medical Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
Education level	first-cycle studies		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	5		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Zakład Konstrukcji Maszyn i Inzynierii Medycznej -> Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Rafał Gawarkiewicz				
	Teachers						
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		0.0		0.0	30
Subject objectives	Skills of design development with use of CAD software with emphasis on analyses related to the specificity of medical devices.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W07] he/she is able to design, manufacture and utilize machine parts and technical devices, he/she can prepare a technical documentation	Student identifies phenomena in elements of machines. Student creates computational models used in machine design. Student analyses and selects suitable computational models of separable and inseparable joints. Student identifies loadings and stress states at critical places of analyzed machine elements, and estimates their safety. Student draws engineering drawings with the help of the CAD software.	[SW1] Assessment of factual knowledge
	[K6_U08] he/she is able to assess whether proposed methods and tools can be used in practice to solve simple engineering task related to machine design, manufacturing and utilization	Student identifies phenomena in elements of machines. Student creates computational models used in machine design. Student analyses and selects suitable computational models of separable and inseparable joints. Student identifies loadings and stress states at critical places of analyzed machine elements, and estimates their safety.	[SU3] Assessment of ability to use knowledge gained from the subject
	[K6_U07] he/she is able to identify the problem and list simple engineering tasks to solve this problem in practice, he/she is able to critically analyze the proposed technical solutions and conclude whether these solutions can be implemented to solve problems related to design of mechanical devices and mechanical-medical devices	Student identifies phenomena in elements of machines. Student creates computational models used in machine design. Student analyses and selects suitable computational models of separable and inseparable joints. Student identifies loadings and stress states at critical places of analyzed machine elements, and estimates their safety.	[SU1] Assessment of task fulfilment
	[K6_W09] he/she has basic knowledge related to numerical methods and engineering software used to analyze, model and design a given mechanical system	The student uses CAD program tools that use the finite element method.	[SW1] Assessment of factual knowledge
	[K6_U05] he/she is able to use analytic and modelling methods to formulate and solve engineering tasks related to the mechanical-medical area	Student identifies phenomena in elements of machines. Student creates computational models used in machine design. Student analyses and selects suitable computational models of separable and inseparable joints. Student identifies loadings and stress states at critical places of analyzed machine elements, and estimates their safety.	[SU1] Assessment of task fulfilment
Subject contents	Issues that require the use of selected CAD software tools to carry out analyses required during the medical device design process.		
Prerequisites and co-requisites	Engineering graphics, Mechanics, Strength of materials, Mechanical design and basic skills of using CAD software like Inventor and AutoCAD programme.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test of the qualifying I	50.0%	50.0%
	Test of the qualifying II	50.0%	50.0%
Recommended reading	Basic literature	Help system of used CAD software.	
	Supplementary literature	Any literature concerning used CAD programmes.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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