

## 表 GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Subject name and code	Computer aided design, PG_00055755							
Field of study	Mechanical and Medical Engineering							
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 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	2		Language of instruction			Polish		
Semester of study	4		ECTS credits			4.0		
Learning profile	general academic profile		Assessment form			exam		
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						hnology	
Name and surname	Subject supervisor	ubject supervisor prof. dr hab						
of lecturer (lecturers)	Teachers							
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	ory Project		Seminar	SUM
of instruction	Number of study hours	30.0	0.0	0.0	30.0		0.0	60
	E-learning hours included: 0.0							
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM
	Number of study hours	60		5.0		35.0		100
Subject objectives	Acquisition of knowledge and design skills with the use of CAD systems.							
Learning outcomes	Course outcome		Subject outcome			Method of verification		
	[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 uses CAD tools that use the finite element method, kinematic analysis, dimensional analysis, evaluation of the technological efficiency of elements, etc.			[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W07] he/she is able to design, manufacture and utilize machine parts and technical devices, he/she can prepare a technical documentation		Student uses CAD tools that enable 3D design, creating 3D documentation, creating 2D documentation. The student uses program libraries and external databases.			[SW2] Assessment of knowledge contained in presentation		
	[K6_W09] he/she has basic knowledge related to numerical methods and engineering software used to analyze, model and design a given mechanical system		Student uses CAD tools that use the finite element method, kinematic analysis, dimensional analysis, evaluation of the technological efficiency of elements, etc.			[SW2] Assessment of knowledge contained in presentation		
	[K6_U03] he/she is able to use information-communication skills to solve typical engineering tasks related to design, production and utilization		Student uses CAD tools that enable 3D design, creating 3D documentation, creating 2D documentation. The student uses program libraries and external databases.			[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject		
Subject contents	Familiarization with CAD software (Inventor or Solidworks or others) in the field of creating 2D and 3D technical documentation, FEM strength analysis, kinematic analysis, dimensional analysis, familiarization with available databases of machine elements (both from the program library and from external sources, e.g. database of suppliers of machine components). Getting acquainted with AutoCAD software in the field of creating flat technical documentation.							
Prerequisites and co-requisites	Engineering Drawing, Strength of Materials, Fundamentals of Machine Design, basics of using CAD programs							

Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade			
and criteria	Exam	60.0%	40.0%			
	Task III	60.0%	15.0%			
	Task II	60.0%	15.0%			
	Task I	60.0%	15.0%			
	Task IV	60.0%	15.0%			
Recommended reading	Basic literature	Tutorials (help systems) for Inventor, Solidworks, AutoCad, etc.				
5	Supplementary literature	Any literature for Inventor, Soli Dworks, AutoCad, etc.				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	Design a system that converts rotary motion to reciprocating motion for specific assumptions using the CAD program. Perform a kinematic simulation of the proposed solution.Perform a strength analysis for selected elements from the first task using the CAD programDesign, using the CAD program, the schematic functional layout by selecting elements from the program library and external databases.					
Work placement	Not applicable					