



Subject card

Subject name and code	CAD - Computer Aided Design, PG_00044430						
Field of study	Engineering Management						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2021/2022		
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	Part-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Informatics in Management -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Igor Garnik					
	Teachers	dr inż. Igor Garnik					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	16.0	0.0	0.0	16
	E-learning hours included: 0.0						
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=16331 Adresy na platformie eNauczanie:						
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	16	5.0	54.0	75		
Subject objectives	To familiarize the students with the basics of design using specialized CAD software. To transfer the knowledge in the field of computer-aided design and the practical use of selected CAD programs.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U06] uses basic theoretical knowledge to solve selected organizational problems, design technical solutions and manage projects, including engineering projects	The student is able to perform technical documentation using the CAD/CAM/CAE software; is able to properly format the prints, visualisations and data sheets; can transfer data between different platforms (CAD/CAM/CAE software, office software).			[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W05] knows the statistical and IT methods and tools that enable the acquisition and presentation of data on the organisation's resources, including technical resources	The student understands the specific of computer-aided design process; knows the rules and standards for creating technical documentation using CAD/CAM/CAE software.			[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation		
Subject contents	Introduction. Fusion 360 user interface. Modelling of simple solids. Sketching. The use of SCULPT space. Modification of models and creation of components. Design project management. Assembly of components. Rendering and creating drawing documentation. CAM and animations.						
Prerequisites and co-requisites	Basic knowledge of engineering drawing, knowledge of computer operating systems.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Midterm colloquium	60.0%	60.0%
	Practical exercises	60.0%	40.0%
Recommended reading	Basic literature	1. Exercises shared by the instructors. 2. Software producer's training materials available online. 3. Jaskulski A. (2021), Autodesk Inventor Professional 2022 PL / 2022+ / Fusion 360. Metodyka projektowania. Helion SA, Gliwice. 4. Tutorial Books (2019), Autodesk Fusion 360 For Beginners. Lightning Source Inc.	
	Supplementary literature	1. Any literature on the design with Fusion 360.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Using 3D modelling, follow these steps: 1) create a cuboid with a base of a square with a geometric centre at the beginning of the coordinate system, with a side of 98 mm and a height of 37 mm 2) set a cylinder with a diameter of 63 mm and a height of 31 mm on the rectangular prism 3) using the SHELL command, convert the solid into a shell with a wall thickness of 5 mm 4) cut the shell in half using the YZ plane 5) create components from both halves and spread them apart Complete the model of the crank system based on the attached design documentation including the assembly drawing and executive drawings of individual components.		
Work placement	Not applicable		