GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computer aided design (CAD), PG_00055891		
Field of study	Power Engineering, Power Engineering, Power Engineering		
Date of commencement of studies	October 2021	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	2	Language of instruction	Polish
Semester of study	4	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Michał Wodtke	
	Teachers	dr hab. inż. Michał Wodtke mgr inż. Kornel Piłat	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	30.0	0.0	45

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	45	3.0	27.0	75

Subject objectives

Aquisition of knowledge and design skills with the use of CAD (Computer-Aided Design) systems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] is able to work in a group taking different roles in it, can think and act in an entrepreneurial way, is aware of responsibility for their own work and responsibility for teamwork	Student plans and solves steps of an assigned task, taking into account cooperation in a project group, he/she is able to cooperate with other members of the group while solving the given problem.	[SK1] Assessment of group work skills [SK3] Assessment of ability to organize work
[K6_U04] is able to design a simple device structure and prepare the accompanying technical documentation, conduct a basic technical and economic analysis of energy systems, including technologies using renewable and pro-ecological energy sources as well as conventional and nuclear energy, design energy installations for them and their basic elements (including electric lighting)); select, operate and control the most commonly used electrical devices and drive systems.	Student uses CAD tools that enable 3D design, creating 3D dosumentation, creating assembly and manufacturing 2D drawings.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
[K6_U08] can design the basic parameters of the selected technology related to energy conversion and select auxiliary devices and evaluate the project in terms of technical and economic	Student uses CAD tools that use engineering algorithms of various advancement levels. Student uses program libraries and external databases.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools

Subject contents

Familiarization with CAD 3D software (Inventor or Solidworks or others) in the field of creating 2D and 3D technical documentation, 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).

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Engineering graphics, Strength of Materials, basic of using CAD systems</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Task II</td><td>60.0%</td><td>20.0%</td></tr>
<tr><td>Task III</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Task I</td><td>60.0%</td><td>20.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Tutorials (help systems) for 3D CAD software

Dobrzański T.: Rysunek Techniczny Maszynowy, WNT Warszawa 2005</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Any literature for CAD software, e.g. . Jaksulski A. :Autodesk Inventor 2020 wyd. Helion.</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Uzupełniające
Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Design a system that converts rotary motion to reciprocating motion for specific assumptions using the CADprogram. Perform a kinematic simulation of the proposed solution.

Design, using the CAD program, the schematic functional layout by selecting elements from the program library and external databases.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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