GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Modelling in machine design, PG_00064825		
Field of study	Mechanical Engineering		
Date of commencement of studies	February 2027	Academic year of realisation of subject	2026/2027
Education level	second-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	1	Language of instruction	English
Semester of study	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Division of Machine Design and Medical Engineering -> Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Michał Wodtke	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
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 didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	60	7.0	33.0	100

Subject objectives

consolidation and use of knowledge from mechanical, mechanical, graphic and material science for design and construction

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W02] demonstrates a structured and theoretically grounded knowledge of the key topics in Mechanical Engineering enabling the analysis and modelling of mechanical systems, processes and devices	The studnet shows knowledge covering key issues in the field of Mechanics and Machine Design allowing for the analysis and modeling of systems, processes and mechanical devices	[SW1] Assessment of factual knowledge
[K7_W11] interprets social, economic, legal (including industrial and intellectual property laws), and other non-technical aspects of engineering activities, and includes them into engineering practice	the student interprets the social, economic, legal (including those related to the protection of industrial property and copyright) and other non-technical conditions of engineering activities and takes them into account in engineering practice	[SW1] Assessment of factual knowledge
[K7_U02] formulates and solves technical problems specific to Mechanics and Mechanical Engineering using appropriate tools including CAD and MES systems, and prepares technical documentation	The student formulates and solves technical problems specific to Mechanics and Machine Design using appropriate tools, including CAD and MES systems, and prepares technical documentation.	[SU1] Assessment of task fulfilment
[K7_U15] evaluates the feasibility of advanced methods and tools for solving complex engineering tasks of a practical nature, characteristic of the field of study, and selects and applies appropriate methods and tools for this purpose	the student assesses the usefulness of methods and tools for solving an engineering task of a practical nature, characteristic of the field of study, and selects and applies appropriate methods and tools for this purpose	[SU1] Assessment of task fulfilment

Subject contents

Course content – lecture

models: welded joints, bolted joints, shaft-hub joints, etc.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">mechanics, strength of materials, etc.</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>FEM project presentation</td><td>50.0%</td><td>50.0%</td></tr>
<tr><td>class test</td><td>50.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">machine design - any classical handbook</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">....</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">graphicla type cannot be presented here</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="3">Not applicable</td></tr>
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