GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Modelling in machine design, PG_00057377		
Field of study	Mechanical Engineering		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2022/2023
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	assessment
Conducting unit	Faculty of Mechanical Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Michał Wasilczuk	
	Teachers	prof. dr hab. inż. Michał Wasilczuk dr inż. Rafał Gawarkiewicz	

Lesson types and methods of instruction

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	10.0	30.0	100

Subject objectives

Aim of the course is presenting information and teaching skills applied in creating models in design problems

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U06] when solving engineering problems on design, technology and operation of machines is able to assess and classify typical methods and tools, define systemic and ex-technical aspects using modern calculating methods and design tools or modifying the current ones	Student uses contemporary analytical tools during execution of the task	[SU4] Assessment of ability to use methods and tools
[K7_W05] possesses profound knowledge on the operation of complex systems and mechanical devices, including process equipment	Student analyses the operation of mechanical systems	[SW1] Assessment of factual knowledge
[K7_U03] is able to prepare construction, technological and operational documentation in compliance with appropriate standards, including technical drawings in CAD 2D and 3D systems	Student prepares parts of technical documentation during his project	[SU1] Assessment of task fulfilment

Subject contents

Calculation models od machine elements - comparison of traditional engineering models with their equvalents in FEM

Prerequisites and co-requisites

Mechanics, strength of materials, machine design, technical drawing

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
lecture - exam	50.0%	50.0%
laboratory	100.0%	10.0%
FEM laboratory	50.0%	40.0%

Recommended reading	Basic literature	Shigley - Handbook of Machine Design
	Supplementary literature	TA Stolarski Tribology in Machine Design
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	compare te results obtained by enginnering calculations with the results of FEM calculations	
Work placement	Not applicable	