GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00050046		
Field of study	Space and Satellite Technologies, Space and Satellite Technologies		
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
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Mechanics and Mechatronics -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Krzysztof Lipiński	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	30.0	0.0	0.0	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	15.0	40.0	100

Subject objectives

Extension of the knowledge gained in the framework of general mechanics (statics, kinematics, dynamics). Familiarization with the description of the kinematics and dynamics of movement and any spherical body, the point of moving complex issues collisions, dynamic systems with variable mass and the basics of analytical mechanics (general equation of dynamics, the principle of virtual work, Lagrange equations I and type II.).

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_U05	The student is able to work in a team	[SU5] Assessment of ability to present the results of task
K7_U08	The student applies the principles of analytical mechanics in solving	[SU1] Assessment of task fulfilment
[K7_W01] has extended knowledge of selected areas of mathematics making it possible to solve computational problems and develop research results of technical tasks.	The student has the knowledge to solve computational problems in the field of analytical mechanics	[SW1] Assessment of factual knowledge
[K7_K01] is aware of the constant necessity of improving and broadening their knowledge; can inspire and organise the teaching and learning process.	The student broadens his knowledge	[SK2] Assessment of progress of work
K7_U13	Student describes the kinematics and dynamics of mechanical structures	[SU1] Assessment of task fulfilment

Subject contents

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Prerequisites and co-requisites

nowledge of physics and mathematics at the secondary level, including in particular: geometry and trigonometry, calculus, vector calculus and matrix, as well as knowledge of general knowledge in the field of statics, kinematics and dynamics.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Exam	56.0%	50.0%
Exercices pass	56.0%	50.0%

Recommended reading

Basic literature

1. Sawiak S., Wittbrodt E.: Mechanika. Wybrane zagadnienia. Teoria i zadania. Wyd. PG, Gdańsk 2014

	Supplementary literature	1. Osiński Z.: Mechanika ogólna. T. I i 2, PWN, Warszawa 1987 2. Nizioł J.: Metodyka rozwiązywania zadań z mechaniki. WNT, Warszawa 2002 3. Sawiak S., Wittbrodt E.: Mechanika ogólna. Teoria i zadania. Wyd. PG, Gdańsk 2012
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	