



Subject card

Subject name and code	, PG_00050046						
Field of study	Space and Satellite Technologies						
Date of commencement of studies	February 2024		Academic year of realisation of subject		2023/2024		
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_U13	Student describes the kinematics and dynamics of mechanical structures		[SU1] Assessment of task fulfilment			
	[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_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_U08	The student applies the principles of analytical mechanics in solving		[SU1] Assessment of task fulfilment			
K7_U05	The student is able to work in a team		[SU5] Assessment of ability to present the results of task				
Subject contents	-						
Prerequisites and co-requisites	knowledge 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		
	Exercises pass		56.0%		50.0%		
	Exam		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	<p>1. Osiński Z.: Mechanika ogólna. T. I i 2, PWN, Warszawa 1987</p> <p>2. Nizioł J.: Metodyka rozwiązywania zadań z mechaniki. WNT, Warszawa 2002</p> <p>3. Sawiak S., Wittbrodt E.: Mechanika ogólna. Teoria i zadania. Wyd. PG, Gdańsk 2012</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	