



## 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	-						
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		
	Exam		56.0%		50.0%		
	Exercises 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	<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	