



Subject card

Subject name and code	Vehicle Suspension Design, PG_00062882						
Field of study	Mechanical Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			English		
Semester of study	3	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jacek Kropiwnicki					
	Teachers	dr hab. inż. Jacek Kropiwnicki					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	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	30	0.0		0.0		30
Subject objectives	This course provides a fundamental understanding of vehicle ride and handling behaviour and links this understanding to the practical implications for suspension design.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W11] possesses organized knowledge useful in understanding ex-technical conditioning connected with performing the profession of an engineer and taking it into consideration in engineering practice; possesses well-established knowledge within the range of intellectual property, management and organization of manufacturing processes, including the management and life-cycle of a product	The student has access to the topic of vehicle driving and behavior and combines additional information with practical implications for suspension design.			[SW1] Assessment of factual knowledge		
	[K7_U02] is able to communicate in English in professional matters within the area of technical science and, particularly, of construction and operation of machines	The student is prepared to actively participate in lectures conducted in a foreign field in the field of kinematics, compliance and vehicle suspension design.			[SU3] Assessment of ability to use knowledge gained from the subject		
	[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	This can be understood in English, relating to kinematics and compliance issues and vehicle suspension design.			[SK3] Assessment of ability to organize work		
Subject contents	Role of the suspension. Suspension kinematics and compliances theoretical background and practical measuring schemes. Suspension design an overview of suspension design properties and review of current design philosophy. Review of typical designs. Current design trends. Practical implications. Case studies introduction to modelling and simulation software and discussion of practical case studies.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Test	60.0%			100.0%		

Recommended reading	Basic literature	Goodarzi, A., Khajepour, A. Advanced Suspension Systems. In: Vehicle Suspension System Technology and Design. Synthesis Lectures on Advances in Automotive Technology. Springer, Cham. Avesta Goodarzi , Amir Khajepour. Vehicle Suspension System Technology and Design. Morgan&Calypool Publishers.
	Supplementary literature	Not applicable
	eResources addresses	Adresy na platformie eNauzanie: Vehicle Suspension Design, W, MiBM II st., sem. 03, letni 23/24 (PG_00062882) - Moodle ID: 38561 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=38561
Example issues/ example questions/ tasks being completed	Role of the suspension. Suspension kinematics. Suspension design properties. Discussion of practical case studies.	
Work placement	Not applicable	