GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Vehicle Suspension Design, PG_00062882		
Field of study	Transport and Logistics		
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	Zakład Ekoinżynierii i Silników Spalinowych -> Institute of Energy -> 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_U03] The student is able to make a detailed analysis of the results obtained, and to develop them in the form of a technical report or presentation, also in English	The student can be understood in English, relating to kinematics and compliance issues and vehicle suspension design.	[SU1] Assessment of task fulfilment
[K7_U01] The student can obtain information from literature, databases and other, properly selected sources, also in English; is able to integrate the obtained information, interpret it, as well as draw conclusions and formulate and justify opinions	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_W08] The student has a structured and extended knowledge of automation, control, management and energy efficiency in transport systems	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

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 eNauczanie: Vehicle Suspension Design, W, TiL II st., sem. 03, letni 23/24 (PG_00062882) - Moodle ID: 38562 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38562
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	