GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fuels, Oil and Greases, PG_00056068		
Field of study	Power Engineering, Power Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
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	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Zakład Siłowni Okrętowych -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Piotr Bzura	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	3.0	7.0	25

Subject objectives

Gaining knowledge about fuels, oils and greases by the student

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W06] knows classic and developmental energy technologies, rules for the selection and operation of heat and energy devices and installations, basic principles of energy systems operation, basic issues regarding the reliability of energy devices and diagnostics, environmental effects of energy technologies used, methods of using renewable energy sources	The student is able to explain the origin, describe the properties and characterizing indices, classify and present the operational issues of fuels, oils and greases	[SW2] Assessment of knowledge contained in presentation
[K6_K03] is able to react in emergency situations, threats to health and life when using energy devices, is aware of the impact of engineering activities on the environment	The student is aware of the impact of engineering activities on the environment	[SK5] Assessment of ability to solve problems that arise in practice

Subject contents

Division and origin of fuels. Resources of fossil energy resources in Poland and in the world. Production and structure of fuel consumption. Main directions of crude oil processing. Classification and physical properties of gaseous and liquid fuels - natural gas, gasoline, kerosene, diesel oil, heating oil. Classification and characteristic indicators of solid fuels - hard coal, lignite, peat. Fuel contaminants and methods of their removal. Classification, characteristics and properties of lubricating oils and greases. Guidelines for the selection of lubricants.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test	50.0%	100.0%

Recommended reading	Basic literature	1. 4. JAMES G. SPEIGHT: Handbook of Petroleum. Product Analysis 2. Baczewski K., Kałdoński T.: Fuels for self-ignition engines. WKŁ, Warsaw 2008 3. Baczewski K., Kałdoński T.: Fuels for spark-ignition engines. WKŁ, Warsaw 2008 4. Podniało A.: Fuels, oils and lubricants in ecological operation. Guide. WNT, Warsaw, 2002. 5. Urbański P.: Fuels and Lubricants. Gdansk 1997
	Supplementary literature	Catalogs and brochures of producers of fuels, lubricating oils and technical devices
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	*Measuring vapour pressure and propane-butane density*	
Work placement	Not applicable	