GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00062013		
Field of study	Siłownie okrętowe		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	8.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Marine Power Plants -> Institute of Naval Architecture -> Faculty of Mechanical Engineering and Ship Technology -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Piotr Bzura	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	36.0	0.0	9.0	18.0	0.0	63

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	63	0.0	0.0	63

Subject objectives

Familiarization with the operating conditions of various ship power plants

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U14] is able to analyse the operation of devices and compare the construction solutions applying usage, safety, environmental, economic and legal criteria	Knows the machinery and equipment included in the shaft line for the direct and indirect system	[SU2] Ocena umiejętności analizy informacji
[K6_W11] has knowledge of analysis, design, technology and manufacturing of selected technical systems, machinery and equipment, metrology and quality control, knows and understands methods of measurement and calculation of basic quantities describing the operation of technical systems, knows basic calculation methods used to analyse experimental results	Present the engine-propeller- hull cooperation	[SW2] Ocena wiedzy zawartej w prezentacji
[K6_W08] has a knowledge of the analysis and design of selected technical systems, machines and technical equipment, selection of construction materials, manufacturing and operation, including their life cycle	The student knows basic information about fuel used for propulsion	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym
[K6_U03] is able to identify, formulate and develop the documentation of a simple design or technological task, including the description of the results of this task in Polish or in a foreign language and to present the results using computer software or other aiding tools	The student defines the concepts of machinery and equipment included in the main propulsion system of a ship	[SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu

<table>
<tr><td>Subject contents</td><td colspan="3">Types of ship propulsors, their classification. Characteristics of the piston engine of combustion engines, gas turbines, steam turbines and nuclear power plant. Combined gyms. Engine power plant solutions - direct drive, indirect drive. Elements of the shaft line of the main drive system. The bases of the engine-thrust-hull cooperation. Installations servicing internal combustion engines. Machines and gym equipment. The basic installations of the analyzed marine power plants</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>credit colloquium</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Andrzej Balcerski: Siłownie okrętowe

Z.Górski, M.Giernalczyk: Siłownie okrętowe część 1 i 2</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Dr C.B. Barrass: Ship Design and Performance for Masters and Mates</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">1. Factors affecting the ship's operating resistance.2. The interaction of the propeller and the ship's hull.3. Slow-speed engine selection field,4. Selection field of medium-speed engine5. Advantages and disadvantages of the shaft generator propulsion system6. Selection of economic speed of the ship</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="3">Not applicable</td></tr>
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