GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00072660		
Field of study	Transport and Logistics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2026/2027
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	7	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Marine Auxiliary Machinery -> Institute of Naval Architecture -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Jacek Nakielski	
	Teachers	dr inż. Jacek Nakielski	

Lesson types

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	0.0	0.0	15

Subject objectives

A presentation and analysis of the most significant maritime disasters in the history of modern navigation. A presentation of disasters not only as technical events but also as complex processes with human, legal, organizational, and social implications, leading to the evolution of international maritime law and safety procedures.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	The student has knowledge about the history of major maritime disasters, their multi-aspect causes (technical, human, meteorological) and their impact on the development of global safety systems.	[SU1] Assessment of task fulfilment
[K6_K71] is able to explain the need to apply knowledge from humanistic, social, economic or legal sciences in order to function in a social environment	The student is able to critically analyze the causes of a maritime accident based on reports from maritime chambers and identify errors in human resources management and procedural errors.	[SK2] Assessment of progress of work
[K6_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	The student understands the social and ethical responsibility of an engineer for the safety of human life and the protection of the natural environment in marine areas.	[SW2] Assessment of knowledge contained in presentation

<table>
<tr><td>Subject contents</td><td>Course content – lecture

1. Introduction to maritime accidents and disasters. Definitions, statistics, human psychology in extreme conditions. (2h)
2. Naval architecture and safety: The tragedy of the transatlantic liner Titanic and the birth of the SOLAS convention. (2h)
3. Ships in difficult hydrometeorological conditions analysis of general cargo ship accidents. Kudowa-Zdrój and Busko-Zdrój. (3h)
4. Ro-ro ships and their stability characteristics causes and course of the Jan Heweliusz and Estonia ferry disasters. (3h)
5. Environmental disasters: Tanker operation: the example of the Exxon Valdez and changes in double-hull regulations. (3h)
6. Summary: The role of the human factor (CRM - Crew Resource Management) in contemporary maritime safety procedures. (2h)</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>test</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Cawthorne N., Wraki morskie. Tragedia i katastrofy, Wydawnictwo Bellona, Warszawa

Mąka H., Katastrofy polskich statków, Wydawnictwo Bellona, Warszawa</td></tr><tr><td>Supplementary literature</td><td>Lord W., Titanic. Pamiętna noc,
International Convention for the Safety of Life at Sea.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. What key changes in passenger ship design and lifesaving equipment did the Titanic disaster necessitate?
2. Compare the causes of the sinking of the Jan Heweliusz and Estonia ferries. What design and operational lessons were learned for ro-ro ships?
3. Explain the concept of "human error" in the context of the Exxon Valdez tanker disaster.</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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