GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of maritime transportation systems, PG_00064176		
Field of study	Podstawy systemów transportu wodnego		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Patrycja Jerzyło	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	0.0	15.0	0.0	60

E-learning hours included: 0.0

eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=1942

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	60	3.0	12.0	75

Subject objectives

Students will learn basic information about inland and maritime navigation, hydrotechnical structures, sustainable transport, navigation safety, and waterway revitalization.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U07] able to identify the influence of management mechanisms, technological progress, spatial policy, environmental protection, and safety on the functioning and development of transportation and to incorporate it into the process of planning, designing, construction, and operation of transportation infrastructure and systems.	The student is able to indicate the influence of management mechanisms, technological progress, spatial policy, environmental protection, safety on the functioning and development of water transport and take it into account in the process of planning, designing, building and operating water transport infrastructure and systems.	[SU4] Ocena umiejętności korzystania z metod i narzędzi [SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu [SU2] Ocena umiejętności analizy informacji
[K6_W06] has knowledge to understand transportation development planning considering economic, spatial, ecological, and social conditions and the consequences of transportation activities	The student has knowledge in the field of understanding the diagnosis and planning of the development of water transport, taking into account the economic, spatial, ecological and social conditions and effects of transport activities.	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym [SW2] Ocena wiedzy zawartej w prezentacji

Subject contents

Course content – lecture

Regulations, resolutions, circulars regarding water transport, entities responsible for water administration (IMO), organizational structure of water management in Poland, hydrotechnical development of rivers and lakes, characteristics and classification of water transport infrastructure, navigational signs, ship traffic control systems, navigation safety, intermodal transport, maintenance of the navigable route and revitalization of inland navigation, impact of water transport on the environment.

Course content – exercises

Introductory knowledge of concepts related to waterside landscape design and the design of ports and marinas

Course content – project

Design of a transshipment base, taking into account the hydrotechnical and transshipment infrastructure and connections with road and rail transport. Introductory knowledge of port-related concepts and maritime hydrotechnical facilities. The ship. Overview of hydrotechnical facilities quays. Quay equipment mooring, fendering, entry/exit devices, safety devices. Calculation of energy required for a ship to berth. Unloading/loading, transshipment devices, cargo storage and warehousing systems within the port.

<table>
<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>60.0%</td><td>40.0%</td></tr>
<tr><td>presentation</td><td>60.0%</td><td>30.0%</td></tr>
<tr><td>project</td><td>60.0%</td><td>30.0%</td></tr>
</table>
</td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>[1] Kristiansen S., Maritime Transportation: Safety Management and Risk Analysis. Elsevier,2005.

[2] MSC 69/INF.14 Formal Safety Assessment, IMO, Londyn, 12.02.1998r.,</td></tr>
<tr><td>Supplementary literature</td><td>[1] European Agreement on Main Inland Waterways of International Importance, Geneva1996</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">What determines the operation of a seaport? What are the goals of water management? What are the elements of a water barrage?</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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