GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Maneuverability and Seakeeping, PG_00060544		
Field of study	Naval Architecture and Offshore Structures		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group 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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute Of Naval Architecture -> Faculty Of Mechanical Engineering And Ship Technology -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Maciej Reichel	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	45.0	0.0	15.0	0.0	0.0	60

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	60	6.0	59.0	125

Subject objectives

The aim of the subject is to introduce to students the theory of seakeeping and manoeuvring abilities of ships.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W03] has knowledge of hydromechanics, thermodynamics, machine design, ecology, materials science necessary to understand the principles of construction and operation of ocean engineering facilities and equipment	student understands the influence of ship hull shape and design of propulsion-steering system on seakeeping and manoeuvring abilities of ships	[SW3] Assessment of knowledge contained in written work and projects
[K6_U06] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete a simple engineering task within the range of design, construction and operation of ocean technology objects and systems	student is able to predict seakeeping and manoeuvring abilities of ships	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_W02] has knowledge in the field of technical mechanics, fluid mechanics, strength of materials, necessary to understand the basic physical phenomena occurring in ocean engineering	student has knowledge on issues making ship seakeeping and manoeuvring abilities worse	[SW1] Assessment of factual knowledge

<table>
<tr><td>Subject contents</td><td>Wave theory

Ship behaviour on waves - additional resistance

Dangerous motions of ships

Basic information on manoeuvring characteristics of ships

Influence of ship hull and design of propulsion-steering devices on seakeeping and manoeuvring abilities</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>initial course on hydrodynamics, propulsion and resistance</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>lab test</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>exam</td><td>60.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>Krężelewski - Hydromechanika okrętu

Brix - Manoeuvring Technical Manual

Dudziak - Teoroa Okrętu</td></tr>
<tr><td>Supplementary literature</td><td>Reichel - Hydromechaniczne aspekty projektowania statków z napędem azymutalnym</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Wave theory

Added resistance

Ship motions on waves

IMO manoeuvring model tests</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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