



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 2023	Academic year of realisation of subject			2025/2026		
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 Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
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		

Subject contents	<p>Wave theory</p> <p>Ship behaviour on waves - additional resistance</p> <p>Dangerous motions of ships</p> <p>Basic information on manoeuvring characteristics of ships</p> <p>Influence of ship hull and design of propulsion-steering devices on seakeeping and manoeuvring abilities</p>		
Prerequisites and co-requisites	initial course on hydrodynamics, propulsion and resistance		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	lab test	60.0%	50.0%
	exam	60.0%	50.0%
Recommended reading	Basic literature	<p>Krężelewski - Hydromechanika okrętu</p> <p>Brix - Manoeuvring Technical Manual</p> <p>Dudziak - Teoria Okrętu</p>	
	Supplementary literature	Reichel - Hydromechaniczne aspekty projektowania statków z napędem azymutalnym	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	<p>Wave theory</p> <p>Added resistance</p> <p>Ship motions on waves</p> <p>IMO manoeuvring model tests</p>		
Work placement	Not applicable		