



Subject card

Subject name and code	, PG_00056311						
Field of study	Ocean Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2023/2024		
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		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Zakład Projektowania Okrętu -> Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Przemysław Krata				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	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	30		3.0		17.0	50
Subject objectives	The purpose of the course is to present the fundamentals of buoyancy and stability of a ship primarily in static approach, with selected elements of dynamics.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W06] has an organized knowledge on engineering methods and design tools allowing the conducting of projects within the construction and operation of ocean technology objects and systems		The student knows the scope and methods of calculations related to ship hydrostatics and stability.		[SW1] Assessment of factual knowledge		
	[K6_W08] has knowledge of the principles of sustainable development		The student understands the importance of ship stability for the safety of navigation and protection of the marine environment.		[SW1] Assessment of factual knowledge		
Subject contents	<div>- Fundamentals of determining hydrostatic curves.</div> <div>- Initial stability of a ship.</div> <div>- Stability at large angles of heel.</div> <div>- Righting arm curve and its interpretation.</div> <div>- Determination of static heel angle of a ship.</div> <div>- Fundamentals of dynamic stability of a ship.</div> <div>- Basics of ship stability assessment.</div>						
Prerequisites and co-requisites	Basic knowledge of physics and engineering mechanics.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Final test		50.0%		100.0%		
Recommended reading	Basic literature		Derret, Stability for mates and masters (free to download)				
	Supplementary literature		Kobyliński L., Kastner S., 2003. Stability and safety of ships, Volume I, Regulation and Operation, Elsevier Ocean Engineering Book Series, volume 9.				
	eResources addresses		Adresy na platformie eNauczanie:				

Example issues/ example questions/ tasks being completed	Developing of ship hydrostatic data. Displacement and coordinates of the center of gravity calculations. Determination of the ship's stability characteristics for small and large angles of heel. Determination of small and large static angle of heel of a ship subjected to external heeling moment. Determination of the dynamic angle of heel of the ship.
Work placement	Not applicable