University of Gdańsk

Subject card

Subject name and code	Ship Manoeuvring - laboratory classes , PG_00201131						
Field of study	Marine Hydrography						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2028/2029			
Education level	Bachelor's studies		Subject group	Obligatory subject group in the field of study Subject group related to practical vocational preparation			
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	1.0			
Learning profile	practical		Assessment form	credit			
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Piotr Bekier				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	10.0	0.0	0.0	10
	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	10		2.0	13.0	25	
Subject objectives	Providing knowledge of the basics of maneuvering. Mastering the rules of navigation in shallow waters. Mastering the rules of maneuvering in simple and difficult conditions. Mastering the rules of maneuvering in emergency situations. Mastering the basics of independent maneuvering of a single- and twin-screw vessel during mooring/unmooring and anchoring.Transferring the rules of cooperation with the pilot and tugs.Mastering the principles of lowering and lifting lifesaving equipment in sea wave conditions.Mastering the principles of emergency control.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[HML3-U09] is able to critically analyse the functioning of existing technical solutions and evaluate these solutions	is able to: - plan and independently perform basic maneuvers of the vessel in selected propulsion configurations; - apply in practice the principles of maneuvering in shallow waters; - apply in practice the principles of maneuvering in simple and difficult conditions; - apply in practice the principles of maneuvering in emergency situations; - use the basics of independent maneuvering of a single and twin screw vessel during mooring/ unmooring and anchoring; - apply in practice the principles of cooperation with the pilot and tugs; - apply in practice the principles of lowering and raising lifesaving equipment in sea wave conditions; - apply the principles of emergency control in practice; - take action to prevent the ship's propulsion system, rudder and electrical power from exceeding safe operating limits during normal maneuvers; - ensure safe navigation by appropriate changes in ship's course and speed	[SU6] demonstration of practical skills
	[HML3-U11] is able to use navigation devices, means of technical observation and communication as well as measuring instruments, as well as apply in practice various techniques of measurement and observation in the field of professional activity related to the field of study	is able to: - plan and independently perform basic maneuvers of the vessel in selected propulsion configurations; - apply in practice the principles of maneuvering in shallow waters; - apply in practice the principles of maneuvering in simple and difficult conditions; - apply in practice the principles of maneuvering in emergency situations; - use the basics of independent maneuvering of a single and twin screw vessel during mooring/ unmooring and anchoring; - apply in practice the principles of cooperation with the pilot and tugs; - apply in practice the principles of lowering and raising lifesaving equipment in sea wave conditions; - apply the principles of emergency control in practice; - take action to prevent the ship's propulsion system, rudder and electrical power from exceeding safe operating limits during normal maneuvers; - ensure safe navigation by appropriate changes in ship's course and speed	[SU6] demonstration of practical skills

Course outcome	Subject outcome	Method of verification
[HML3-U18] is able to work individually and in team, manage the work of the team, in particular comply with health and safety regulations and ergonomics	is able to: - plan and independently perform basic maneuvers of the vessel in selected propulsion configurations; - apply in practice the principles of maneuvering in shallow waters; - apply in practice the principles of maneuvering in simple and difficult conditions; - apply in practice the principles of maneuvering in emergency situations; - use the basics of independent maneuvering of a single and twin screw vessel during mooring/ unmooring and anchoring; - apply in practice the principles of cooperation with the pilot and tugs; - apply in practice the principles of lowering and raising lifesaving equipment in sea wave conditions; - apply the principles of emergency control in practice; - take action to prevent the ship's propulsion system, rudder and electrical power from exceeding safe operating limits during normal maneuvers; - ensure safe navigation by appropriate changes in ship's course and speed	[SU6] demonstration of practical skills

Subject contents

EFFECTS OF CHANGES IN LOADING CONDITION, DRAFT, TRIM, SPEED AND WATER RESERVE UNDER THE KEEL ON THE CIRCULATION AND STOPPING PARAMETERS OF THE SHIP

Forces occurring on the rudder, types of rudders.Propellers, propeller side effect.Maneuvering tests, circulation dimensioning, drift angle.Ship circulation parameters.The influence of the initial speed on the circulation diameter.Stopping a ship in a loaded and ballast condition.The influence of shallow water on the ship's speed.Ship's course stability.

THE EFFECT OF WIND AND CURRENT ON THE MANEUVERING PROPERTIES OF THE SHIP

The behavior of the ship when moving forward when exposed to wind from different directions.The influence of current on the motion of the ship.

RESCUE MANEUVERS MAN OVERBOARD

Use of each rescue maneuver depending on the situation.Action after noticing a person falling overboard.List of activities on the bridge after receiving information about a man overboard.

SHALL SETTLEMENT AND SHALLOW WATER EFFECTS

The impact of reducing the depth of the water body on the maneuvering properties of the ship.Ship settling (squat).

ANCHORING, MOORING, SHIPPING OF THE SHIP

Preparing anchors to drop.Approach to the anchorage depending on the current, wind and speed above the bottom.Methods and method of throwing anchor.Anchor chain marking and reports transmitted to the bridge.Accepting and returning the pilot.Sailing in ice.

Prerequisites and co-requisites

Subject required by the Regulation of the Minister of Infrastructure and Development of February 5, 2014, on framework training programs and examination requirements for deck department seafarers (i.e., Journal of Laws 2023, item 1566): attendance at all classes is mandatory. AMW allows students to make up for up to 20% of excused absences from these classes in a form that enables them to acquire the missing knowledge and skills. Students who have passed the course but, due to absences exceeding 20% of classes or failure to make up for classes in a form that allows them to obtain the missing knowledge and skills, do not receive an entry in the supplement confirming completion of studies recognized at the operational level in coastal shipping.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>practical exam</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. CZEKAJ E., DUDA D.: Bezpieczeństwo żeglugi. 1995.
2. NOWICKI A.: Wiedza o manewrowaniu statkami morskimi. Trademar, 1999.
3. WRÓBEL F.: Vademecum nawigatora, Trademar, 2002.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">1. WALCZAK A.: Poradnik postępowania na mostku. 1993.</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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