University of Gdańsk

Subject card

Subject name and code	Navigation II - lecture, PG_00200491					
Field of study	Marine Hydrography					
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028	
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	2		Language of instruction		Polish	
Semester of study	3		ECTS credits		1.0	
Learning profile	practical		Assessment form		exam	
Conducting unit	Faculty of Oceanography and Geography -> Rector					
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Arkadiusz Narloch			
	Teachers					
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	7.0	0.0	0.0	0.0	0.0	7
	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	7		1.0	17.0	25
Subject objectives	Mastery of knowledge in the field of: navigation (based on the framework training program at the operational level in the deck department in coastal shipping), selected elements of nautical science, and issues related to sea levels and tides for class B hydrographers (based on the framework training program for class B marine hydrographers).					

Learning outcomes

Course outcome	Subject outcome	Method of verification
[HML3-W09] knows and understands, at an advanced level, issues related to route planning, safe route determination and monitoring in accordance with international regulations, including sources of information on navigational hazards and ways of obtaining it	knows at an advanced level the theoretical foundations of voyage planning and the principles of safe and efficient navigation under various hydrometeorological conditions, taking into account the impact of such conditions in the coastal navigation area	[SW4] test/exam - oral or written
[HML3-W06] knows and understands, at an advanced level, principles of operation and use of navigation devices and systems and issues related to the determination of the position of the object using all available methods	knows and understands, at an advanced level, the principles of operation and use of navigation equipment and systems	[SW4] test/exam - oral or written
[HML3-W05] knows and understands, at an advanced level, map construction and its symbolism	knows how to determine corrections for navigation equipment and how to take hydrometeorological conditions into account in navigation	[SW4] test/exam - oral or written
[HML3-W03] knows and understands, at an advanced level, directions of development and the latest discoveries in the field of scientific disciplines forming the theoretical basis appropriate to the field of study	knows at an advanced level the theoretical principles of navigation and position determination using available techniques	[SW4] test/exam - oral or written
[HML3-W02] knows and understands, at an advanced level, selected phenomena and processes occurring in the hydrosphere, atmosphere, lithosphere and biosphere, their interconnections and relations, as well as practical applications of this knowledge in professional activities related to the field of study	knows the general characteristics and significance of tidal phenomena in navigation	[SW4] test/exam - oral or written
[HML3-W01] knows and understands, at an advanced level, selected facts, phenomena and processes, as well as methods and theories concerning them, explaining the complex relationships between them, constituting basic general knowledge in the field of scientific disciplines forming the theoretical foundations specific to the field of study	knows the principles of safe and efficient navigation at all stages of the voyage, in various hydrometeorological conditions encountered on seas and inland waterways used by seagoing vessels, taking into account the impact of these conditions. .	[SW4] test/exam - oral or written

Subject contents

1. BASICS OF NAVIGATION

1. Basics of trip planning, taking into account tides and ice navigation.

2. GEODETIC AND CARTOGRAPHIC BASICS OF NAVIGATION

1. Electronic maps.

3. LOXODROMIC NAVIGATION

1. Loxodromic navigation. Loxodromic, road, and Mercator triangles.

2. Problems with loxodromic navigation.

3. Loxodrome course on a Mercator map.

<table>
<tr><td>Prerequisites
and co-requisites</td><td colspan="3">This subject is required by the Regulation of the Minister of Infrastructure and Development of 5 February 2014 on framework training programs and examination requirements for deck department seafarers (consolidated text: Journal of Laws of 2023, item 1566): attendance at all classes is mandatory. The Polish Naval Academy allows students to make up up to 20% of excused absences from these classes in a form that allows them to acquire missing knowledge and skills. Students who have passed the course but, due to absences exceeding 20% of classes or who did not make up the classes in a form that allows them to acquire missing knowledge and skills, will not receive an entry in the supplement confirming completion of studies recognized at the operational level in coastal navigation.</td></tr>
<tr><td rowspan="2">Assessment methods
and criteria</td><td>Subject passing criteria</td><td>Passing threshold</td><td>Percentage of the final grade</td></tr>
<tr><td>test</td><td>51.0%</td><td>100.0%</td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. URBAŃSKI J., KOPACZ Z., POSIŁA J.: Nawigacja morska. Część I i II. Wydawnictwo AMW, Gdynia 2000.
2. WOLSKI A.: Pozycja zliczona i obserwowana w nawigacji morskiej. Inżynieria, Szczecin 2016.
3. ŻOŁNIERUK D.: Nakres drogi okrętu. Część I. Wydawnictwo AMW, Gdynia 2016</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">1. DĄBROWSKI T., CZAPLEWSKI K.: Locja morska. Wydawnictwo AMW, Gdynia 1998
2. WRÓBEL F.: Vademecum oficera wachtowego, TradeMar, Gdynia 2006</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">1. Determining the calculated position taking into account drift.

2. Determining the calculated position taking into account drift.

3. Determining the calculated position taking into account total drift.

4. Determining the observed position from the measurement of navigation parameters to one, two, and three

navigation marks.

5. Using tide tables and calculating the time of occurrence of the desired tide height.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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