

**Subject card**

<b>Subject name and code</b>	Navigation - course ECDIS, PG_00131502						
<b>Field of study</b>	Marine Hydrography						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2025/2026		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Optional subject group		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	2	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	4	<b>ECTS credits</b>			1.0		
<b>Learning profile</b>	practical	<b>Assessment form</b>			credit		
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. inż. Krzysztof Naus				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	10.0	0.0	0.0	0.0	0.0	10
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	10		5.0		10.0	25
<b>Subject objectives</b>	Gaining knowledge and skills in using ECDIS for safe navigation, including voyage planning with consideration of potential navigational hazards, and available sources of navigational and weather warnings.						
<b>Learning outcomes</b>	<b>Course outcome</b>		<b>Subject outcome</b>		<b>Method of verification</b>		
	[HML3-W06] 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: - The principles of operation and use of the ECDIS system.		[SW4] test/exam - oral or written		
	[HML3-W09] 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: - Issues related to voyage planning, determining a safe route, and monitoring it in accordance with international regulations, including sources of information on navigational hazards and methods for obtaining them.		[SW4] test/exam - oral or written		
	[HML3-W16] engineering standards and norms specific to the field of study, in particular those recommended by IHO and IMO		Knows: - Standards and norms for ECDIS systems recommended by IHO and IMO.		[SW4] test/exam - oral or written		
	[HML3-W05] map construction and its symbolism		Knows: - The structure of electronic charts and their symbolism.		[SW4] test/exam - oral or written		
<b>Subject contents</b>	Geographic information systems GIS. Legal aspects, standardization of ECDIS systems. Characteristics of basic types of electronic chart systems (ECDIS, RCDS, and ECS). Database created for ECDIS needs (WEND, RECC centers). Basic navigational functions of ECDIS. Presentation of ECDIS data (ENC/SENC and RNC/SRNC). Devices and sensors cooperating with ECDIS. Planning, monitoring, and recording voyages in ECDIS systems. Display and presentation functions of additional navigational information. Data updating, registration of navigational data, control of the correct functioning of ECDIS, backup functions. ARCS, AVCS, TADS services. Alarms, warnings, and misinterpretation of presented data. Pilot navigation using ECDIS.						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Colloquium	51.0%	100.0%
Recommended reading	Basic literature	1. BOWDITCH N.: American Practical Navigator. 2002. (Chapter 14 Electronic Charts).	
	Supplementary literature	1. Navi-Sailor 4100 User Manual. 2. NMEA Interface Standard 0183 v.3.01 (Severna Park, MD, National Marine Electronic Association, 1/2002). 3. SOLAS Convention, Regulations V/19, V/20 and V/27 as amended 2009, IMO Res. MSC 282(86).	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Discuss the most important applications of GIS in hydrography.</li> <li>2. Which international organizations are responsible for the standardization of ECDIS?</li> <li>3. What functions do RECC centers serve in the context of ECDIS?</li> <li>4. How does ECDIS help ensure safe navigation?</li> <li>5. What are ENC and SENC data?</li> <li>6. What data do these devices provide and how are they used in ECDIS?</li> <li>7. How does ECDIS record navigational data and what methods are used to ensure the system's correct operation.</li> <li>8. What types of alarms and warnings are generated by ECDIS?</li> </ol>		
Work placement	Not applicable		

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