

Subject card

Subject name and code	Navigation - ECDIS course - lecture, PG_00198840						
Field of study	Marine Hydrography						
Date of commencement of studies	October 2027		Academic year of realisation of subject		2028/2029		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		1.0		
Learning profile	practical		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Krzysztof Naus				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	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		1.0		14.0	25
Subject objectives	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.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[HML3-W05] knows and understands, at an advanced level, map construction and its symbolism		knows the structure of an electronic map and its symbols		[SW4] test/exam - oral or written		
	[HML3-W16] knows and understands engineering standards and norms specific to the field of study, in particular those recommended by IHO and IMO		knows the standards and norms for ECDIS systems recommended by IHO and IMO		[SW4] test/exam - oral or written		
	[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 the 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-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 the principles of operation and use of the ECDIS system		[SW4] test/exam - oral or written		

Subject contents	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	1. Discuss the most important applications of GIS in hydrography. 2. Which international organizations are responsible for the standardization of ECDIS? 3. What functions do RECC centers serve in the context of ECDIS? 4. How does ECDIS help ensure safe navigation? 5. What are ENC and SENC data? 6. What data do these devices provide and how are they used in ECDIS? 7. How does ECDIS record navigational data and what methods are used to ensure the system's correct operation. 8. What types of alarms and warnings are generated by ECDIS?		
Work placement	Not applicable		

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