University of Gdańsk

Subject card

Subject name and code	Navigation - course ECDIS, PG_00131501						
Field of study	Marine Hydrography						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Optional subject group 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	4		ECTS credits		2.0		
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	0.0	20.0	0.0	0.0	0.0	20
	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	20		5.0		25.0	50
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-U12] use engineering standards and norms and apply technologies specific to the field of study	Is capable of: - Utilizing engineering standards and norms, and applying technologies relevant to the field of study.	[SU6] demonstration of practical skills
[HML3-U16] prepare in Polish and foreign language a study of a problem in the field of study with documented conclusions, supported by a report and a multimedia presentation	Is capable of: - Preparing a report on a problem related to the field of study in both Polish and a foreign language, including documented conclusions, supported by a written report and a multimedia presentation.	[SU6] demonstration of practical skills
[HML3-U07] effectively use information and communication techniques, including utility programs to solve professional problems	Is capable of: - Effectively using information and communication technologies, including application programs, to solve professional problems.	[SU6] demonstration of practical skills
[HML3-U11] 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 capable of: - Using navigational devices, technical observation and communication means, and measuring instruments, as well as practically applying various measurement and observation techniques in professional activities related to the field of study.	[SU6] demonstration of practical skills
[HML3-U19] plan and implement independent learning and improvement of his/her professional competences	Is capable of: - Planning and carrying out self-directed learning and improving professional competencies.	[SU6] demonstration of practical skills
[HML3-U15] communicate using a variety of techniques, including non-verbal and different technical means in the professional environment and in other environments	Is capable of: - Communicating using various techniques, including non-verbal methods and different technical means, in professional and other environments.	[SU6] demonstration of practical skills
[HML3-U13] determine the technical condition of navigation and hydrotechnical infrastructure, as well as maintain navigation and hydrographic equipment and systems, both on board and on shore	Is capable of: - Assessing the technical condition of navigational and hydro-technical infrastructure, as well as maintaining navigational and hydrographic devices and systems, both onboard and shore-based.	[SU6] demonstration of practical skills

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
Practical exam	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. What are the stages of voyage planning using ECDIS?
2. What monitoring and recording functions does ECDIS offer for voyages?
3. What are the advantages of using ECDIS in pilot navigation?
4. What are the most common causes of misinterpretation of data presented by ECDIS?
5. What are the procedures for updating data in ECDIS?
6. What additional navigational information can be displayed in ECDIS?

Work placement

Not applicable

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