GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Yacht architecture & design, PG_00064885		
Field of study	Naval Architecture and Offshore Structures		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2025/2026
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Zakład Projektowania Okrętu - Brak (istniała Wcześniej) -> Institute of Naval Architecture -> Faculty of Mechanical Engineering and Ship Technology -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. szt. Paweł Gełesz	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

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	30	8.0	37.0	75

Subject objectives

The programme's thematic area (with research elements) includes all design activities falling within the scope of broadly understood yacht architecture (sailing and motor yachts), aggregating interdisciplinary knowledge from the technical area with elements of ergonomics basics.

A fundamental form of student activity is exploration. The programme envisages the use of: experiments (e.g. on a scale of 1:1), the method of successive approximations (the so-called design spiral), research work (research through design), synthesising results (e.g. as part of team work) and a final author's design proposal that also takes into account legal requirements and limitations. An important feature of the programme is the systematic development of students' competences at the creative and decision-making level.

Course objectives:
- development of competence for the creation of new concepts in the area of yacht architecture oriented primarily on the needs of users,
- development of a responsible attitude as creator and coordinator of innovations in the field of yacht architecture
- development of skills and creative attitudes in the field of yacht architecture in its broadest sense

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W12] identifies and interprets the main developmental trends and significant new achievements in the field of engineering and technical sciences and disciplines relevant to the course of study	The student is able to create, present and argue a solution to usability problems in the area of yacht spaces.	[SW2] Assessment of knowledge contained in presentation
[K7_W03] demonstrates structured and theory supported knowledge encompassing key issues in the field of Naval Architecture and Ocean Engineering, enabling developement and synthesis of shipborne and offshore systems, devices, and processes	The student has a structured knowledge of the fundamentals of industrial design in the ergonomics of living spaces.	[SW2] Assessment of knowledge contained in presentation
[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	Students are ready to participate in discussions, to exchange opinions, to argue and to present the results of their work in a foreign language.	[SK4] Assessment of communication skills, including language correctness
[K7_U03] identifies and formulates task specifications in the scope of shipborne and offshore systems/ processes design, including non-standard problems also accounting for their non-technical aspects	The student is able to solve a design problem concerning the organisation of living space for a specific user group.	[SU1] Assessment of task fulfilment

Subject contents

ergonomics of space, programme and utility processes, optimisation of living spaces.

Prerequisites and co-requisites

Entry requirements:
- knowledge of design methods (including teamwork),
- ability to work manually using a wide range of methods and tools (including working in CAD and mock-ups),
- competences connected with analytical skills and communicating the results of one's work using various information techniques.
- the ability to critically appraise their knowledge and skills and recognise the importance of knowledge in solving advanced cognitive and practical problems, including seeking expert advice
- ability to independently integrate acquired and continuously developing competences and experience in order to consciously develop a creative attitude
- fluency in spoken and written english

Additional requirements
- skills to formulate and solve complex issues,
- reflection on the ethical, social and scientific aspects of the design profession

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
presentation of work results	30.0%	25.0%
semester project	50.0%	70.0%
attendance control	50.0%	5.0%

Recommended reading

Basic literature	L. Larsson, R. E. Eliason, *Principles of yacht design*, Aldlard Coles Nauticals, 2022, ISBN 978-14-729819-2-9 A. Lerch. *Architektura statków i okrętów. Projektowanie i konstrukcja*, ISBN 978-83-929697-7-8 (english summary) *Design methodology for small passenger ship on the example of the ferryboat Motlawa 2 driven by hybrid propulsion system*, Polish Maritime Reserch, Special Issue 2017 S1 (93), Vol. 2.
Supplementary literature	ATLAS MIAR CZŁOWIEKA, Dane do projektowania i oceny ergonomicznej, Centralny Instytut Ochrony Pracy Państwowy Instytut Badawczy Warszawa 2023 (polish only) R.A.Flinchum, *Dreyfuss, Design, and Human Factors*, in Ergonomics in Design The Quarterly of Human Factors Applications 8(1):18-24, DOI: 10.1177/106480460000800104
eResources addresses	

Example issues/ example questions/ tasks being completed

Design a space concept for a habitable cabin with an atypical functional layout.
Design a concept for the utilisation of a given space for the realisation of a specific functional programme.
Design a concept for the multi-functional use of the yacht space for the realisation of utility processes related to the accommodation of a specific number of users on board.

Work placement

Not applicable

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