GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | Fundamentals of the Ship Hydrostatics, PG_00060578 | | |
| Field of study | Design and Construction of Yachts | | |
| Date of commencement of studies | October 2025 | Academic year of realisation of subject | 2025/2026 |
| Education level | first-cycle studies | Subject group | Obligatory subject group in the field of study<br>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 | Polish |
| Semester of study | 2 | ECTS credits | 2.0 |
| 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. inż. Przemysław Krata | |
| | Teachers | | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 15.0 | 0.0 | 0.0 | 15.0 | 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 | 3.0 | 17.0 | 50 |

**Subject objectives**

The course aims at outlining the generic background of the hydrostatic calculations traditionally applicable to floating structures including yachts.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K6_U01] can obtain information from literature, databases and other sources, can verify and organize the obtained information, interpret them and form conclusions and justified opinions | A student is able to identify the shape of a yacht hull using body lines drawings. | [SU4] Assessment of ability to use methods and tools |
| [K6_W03] has knowledge of hydromechanics, thermodynamics, machine design, ecology, materials science necessary to understand the principles of construction and operation of ocean engineering facilities and equipment | A student gains knowledge of hydrostatics of floating bodies allowing to understand the principles of developing of hydrostatic curves. | [SW3] Assessment of knowledge contained in written work and projects |
| [K6_U05] able to formulate a simple engineering task and its specification in the field of yacht design, construction, and operation | A student is able to carry on hydrostatic calculations using numerical integration methods. | [SU1] Assessment of task fulfilment |

<table>
<tr><td>Subject contents</td><td>Determination of static equilibrium of a yacht afloat.<br><br>Introduction to numerical integration methods.<br><br>Determination of geometrical characteristics of waterplanes.<br><br>Determination of geometrical characteristics of stations.<br><br>Developing of hydrostatic curves.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Background of physics at the high-school level.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Final test</td><td>50.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Rawson K.J., Tupper E. C.,Basic Ship Theory.<br><br>Ruponen P., Principles of Ship Buoyancy and Stability.</td></tr><tr><td>Supplementary literature</td><td>Lewis, E. V. (ed): Principles of Naval Architecture.<br><br>Hirdaris, S., Lecture Notes on Basic Naval Architecture.</td></tr><tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Determine and draw the hydrostatic curves of a yacht whose hull shape is represented by the given body lines.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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