



Subject card

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| Subject name and code | , PG_00056294 | | | | | | |
| Field of study | Ocean Engineering | | | | | | |
| Date of commencement of studies | October 2021 | Academic year of realisation of subject | | | 2023/2024 | | |
| Education level | first-cycle studies | Subject group | | | Optional subject group 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 | 3 | Language of instruction | | | Polish | | |
| Semester of study | 5 | ECTS credits | | | 3.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Krzysztof Wołoszyk | | | | | |
| | Teachers | dr inż. Krzysztof Wołoszyk | | | | | |
| 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 | 5.0 | | 40.0 | 75 | |
| Subject objectives | The following problems are discussed: - the detailed structural requirements of popular ship types; - structures of inland ships and floating docks; - examples of damages of ship hulls and repairing methods. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K6_W06] has an organized knowledge on engineering methods and design tools allowing the conducting of projects within the construction and operation of ocean technology objects and systems | Student knows structures of typical floating objects and understands restrictions indicating from criteria to be fulfilled (stability, strength, technological aspects) and knows basic methods of strength analysis. | [SW1] Assessment of factual knowledge |
| | [K6_U06] in compliance with a formulated specification and with the aid of appropriate tools and methods, is able to complete a simple engineering task within the range of design, construction and operation of ocean technology objects and systems | Student is able to formulate the structural requirements for particular ship types based on the rules of Classification Societies. | [SU2] Assessment of ability to analyse information |
| | [K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems | Student understands influence of requirements concerning functionality, stability, ability to float in flooded conditions, properties of propulsion system, sea keeping properties and characteristics of materials used – on hull structure, safety of the floating objects and protection of sea environment. Student understands problem of strength of hull structures and its basic equipment (predicting stress values, buckling and fatigue strength analysis). Student is able to make sketches of selected floating objects hull structures and their important equipment items. Student knows selected methods for computing stress values in the structure. | [SW1] Assessment of factual knowledge |
| | [K6_K03] understands non-technical aspects and effects of operation as an engineer, its influence on the environment and is aware of the responsibilities for the decisions taken | Student understands that technical properties of designed floating objects may cause degradation of natural environment and may be dangerous for people. | [SK5] Assessment of ability to solve problems that arise in practice |
| Subject contents | Problems discussed during the lectures: - structure of popular ship types; - structures of inland ships and floating docks; - examples of ship hulls damages and repiaring methods. | | |
| Prerequisites and co-requisites | Student should have some knowledge on theory of ships, technical mechanics, design materials and technical drawings. Knowledge gathered during previous lectures on Ship Structures I and Ship Structures II is also required. | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Test in written form | 60.0% | 100.0% |

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| Recommended reading | Basic literature | <p>1. M.Bogdaniuk, Lectures on Ship Structures III (in polish language only).</p> <p>2. Robert Taggart(Editor), <i>Ship Design and Construction</i>, The soc. Of Nav. Arch. And Marine Eng., New York,1980.</p> <p>3. D.J. Eyres: Ship construction. Elsevier, 5ed.</p> <p>4. Polski Rejestr Statków, Rules for classification and building of sea-going ships, Part II Hull, Gdańsk, 2019.</p> <p>4. Polski Rejestr Statków, Rules for classification and building of small sea-going ships, Part II Hull, Gdańsk, 2019.</p> <p>5. IACS, Common Structural Rules for Bulk Carriers and Oil Tankers, 2018.</p> |
| | Supplementary literature | 1.IACS, Container Ships Guidelines for Survey, Assessment and Repair of Hull Structure, 2005. |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | <p>1. Make some scetches and descriptions of structure of popular ship types.</p> <p>2. Present typical examples of ship modifications and describe problems of ensuring sufficient strength of the modified ship hulls.</p> <p>3. Present examples of ship hull structuresdamages and propose repairing methods.</p> | |
| Work placement | Not applicable | |